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Clean Water Report for Southwestern Wyoming Final Management Plan

CH2M/Hill, Denver, CO

Prepared for

Environmental Protection Agency
Denver, CO Region VIII

Aug 78

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National Technical Information Service
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Sponsored in part by Southwestern Wyoming Water Quality Planning Association, Kemmerer.

This report presents the Water Quality Management Plan for Southwestern Wyoming, as adopted by the Southwestern Wyoming Water Quality Planning Association. The plan is the result of 3 years of technical research by the association staff and its consultants on the water quality needs of the area. The plan combines a number of best management practices administered by a number of different agencies and individuals into a coordinated attack on the major regional water quality problems of Southwestern Wyoming.

KEYWORDS: *Water quality management, *Regional planning.

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Eugene B. Martin,
Chairman

Southwestern Wyoming Water Quality Planning Association

P.O. Box 389 Kemmerer, Wyoming 83101 (307) 877-3984

August 1, 1978

Dear Members and Friends:

Transmitted herewith is a copy of the "Management Plan" for water quality management for Lincoln, Sweetwater and Uinta Counties in Southwestern Wyoming. The "Management Plan" is required by Public Law 92-500 of the Water Pollution Control Act of 1972, as amended.

This management plan reviews the comments received at the public hearings, summarizes the "Final Technical Report," and summarizes the water quality plan. A series of Resolutions are included in this water quaity plan. These are designed to designate management agencies to implement recommendations contained in the "Final Technical Report."

It is our hope that identified management agencies will carefully review these Resolutions and act accordingly towards their implementation.

Sincerely,

Eugene B Martin

EUGENE B. MARTIN
Chairman

EBMfbn
Enclosure

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CH2M HILL
engineers
planners
economists
scientists

27 July 1978

D9524.FO

Southwestern Wyoming Water
Quality Planning Association
P.O. Box 389
Kemmerer WY 83101

Attention: Mr. Eugene B. Martin
Chairman

Gentlemen:

Submitted herewith, please find the Final Management Plan in accordance with our contract with your Association. The Plan consists of a number of resolutions covering methods for managing the major regional water quality problems.

It has been a pleasure working with the Association and its staff during the preparation of this report.

Very truly yours,

William L Sinclair

William L. Sinclair
Project Administrator

cf

Denver Office
12000 E. 47th Avenue, Denver, Colorado 80239 303/371-6470

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EPA 908/3-78-004A

CLEAN WATER REPORT FOR SOUTHWESTERN WYOMING
FINAL MANAGEMENT PLAN

Prepared for
The Southwestern Wyoming Water Quality Planning Association

Prepared by

CH2M HILL, INC.
12000 East 47th Avenue
Denver, Colorado 80239

August 1978

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Chapter 1
INTRODUCTION

This report presents the Water Quality Management Plan for Southwestern Wyoming, as adopted by the Southwestern Wyoming Water Quality Planning Association. The plan is the result of 3 years of technical research by the Association staff and its consultants on the water quality needs of the area. The Plan combines a number of best management practices administered by a number of different agencies and individuals into a coordinated attack on the major regional water quality problems of Southwestern Wyoming.

CH2M HILL is grateful for the technical assistance provided by the Association staff, by the Wyoming Water Resources Research Institute (WRRI), and by Nelson Engineering, Inc., in the development of the Water Quality Management Plan. A special note of thanks is extended to Mr. Jerry Miller of the Association staff for his work on ground water and to Mr. Barry Weand of WRRI for his work on modeling future water quality.

CH2M HILL also would like to acknowledge those who have reviewed the interim and final reports and who have contributed strongly to the political, legal, and administrative elements of the Plan. Those who have been particularly active in the review process are the Technical Advisory Committee members, Mr. Bruce Zander of the United States Environmental Protection Agency, Mr. Larry Robinson of the Wyoming Department of Environmental Quality, Mr. Robert Schuetz of the Association staff, and the local citizens who have attended the public hearings and submitted written comments.

This report was financed through a grant from the U.S. Environmental Protection Agency to the Southwestern Wyoming Water Quality Planning Association. Other reports financed by the grant and published during the course of this 208 planning process for Southwestern Wyoming are:

CH2M HILL. Dec. 1976. *Interim clean water report for Southwestern Wyoming*. D9524.FO

CH2M HILL. Sept. 1977. *Draft technical report, clean water report for Southwestern Wyoming*. D9524.FO

CH2M HILL. Aug. 1978. *Technical report, clean water report for Southwestern Wyoming*. D9524.HO

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Nelson Engineering. 1976. *Step 1 facilities plan for the Town of Granger.*

Nelson Engineering. 1976. *Step 1 facilities plan for Jamestown-Rio Vista Water and Sewer District.*

Nelson Engineering. 1976. *Step 1 facilities plan for the Town of Wamsutter.*

Nelson Engineering. 1977. *Engineering assessment report on Town of Cokeville wastewater treatment facilities.*

Nelson, Haley, Patterson, and Quirk. 1976. *Aerial photomapping of Green River, Evanston, Fort Bridger, and Afton.*

Tudor Engineering. 1977. *Step 1 facilities plan for the Town of South Superior.*

Uinta Engineering. 1977. *Step 1 facilities plan for the Town of Lyman.*

Uinta Engineering. 1977. *Step 1 facilities plan for the Town of Mountain View.*

Uinta Engineering. 1977. *Step 1 facilities plan for the City of Evanston.*

Wyoming Water Resources Research Institute. July 25, 1977a. *Draft report, future water quality conditions in the Green River and in Flaming Gorge Reservoir.*

Wyoming Water Resources Research Institute. Aug. 1977b. *Computer simulation of future scenarios utilizing the Green River model.*

Wyoming Water Resources Research Institute. Apr. 1978. *Supplemental report on water quality predictions using the Green River model.*

Chapter 2
SUMMARY OF THE TECHNICAL REPORT

The results from three years of water quality investigations in Southwestern Wyoming are presented in a publication entitled "Technical Report, Clean Water Report for Southwestern Wyoming". This report was published in August, 1978, and two hundred copies are available at many libraries in Southwestern Wyoming, at the Sweetwater County offices in Green River, at the Lincoln-Uinta Association of Governments office in Kemmerer, and at the offices of many State and Federal agencies involved in the review of the report.

The Technical Report identifies the most pressing regional water quality concerns in Southwestern Wyoming, assesses their impacts on the health and welfare of citizens in the area, and recommends alternatives to alleviate the water quality problems. Because of the length of this report and its limited distribution, a summary of the most important points in the report is presented below.

WHAT IS THE PURPOSE OF THE TECHNICAL REPORT?

The Technical Report is a result of Section 208 of Public Law 92-500, popularly known as the 1972 Clean Water Act. Under Section 208, state governors can designate special areas where there is a concern for existing and/or future water quality. These areas are then eligible to receive grants under Section 208 to carry out a 3-year planning program to develop specific management plans for maintaining and improving water quality. A three-county area in Southwestern Wyoming (see Figure 2-1) was designated by the Governor because of the potential impacts of energy and mineral resources development on water quality in the area.

In addition to designating the area, the Governor designated an agency to carry out the planning. The Southwestern Wyoming Water Quality Planning Association was formed by the county commissioners and the incorporated towns and cities for the purpose of doing this 208 Plan. The Association was formed in November 1975 with offices in Evanston. Various outside consulting firms were employed by the Association to help produce the work needed to develop a plan.

WHAT ARE THE WATER QUALITY GOALS?

The 1972 Clean Water Act which created the 208 planning process mandates the achievement of two national goals: (1) "That wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and provides for recreation in and on the water be achieved by July 1, 1983," and (2) "That the discharge of pollutants into navigable waters be eliminated by 1985". The interim goal, commonly referred to as the fishable/swimmable goal, is the primary objective of 208 planning.

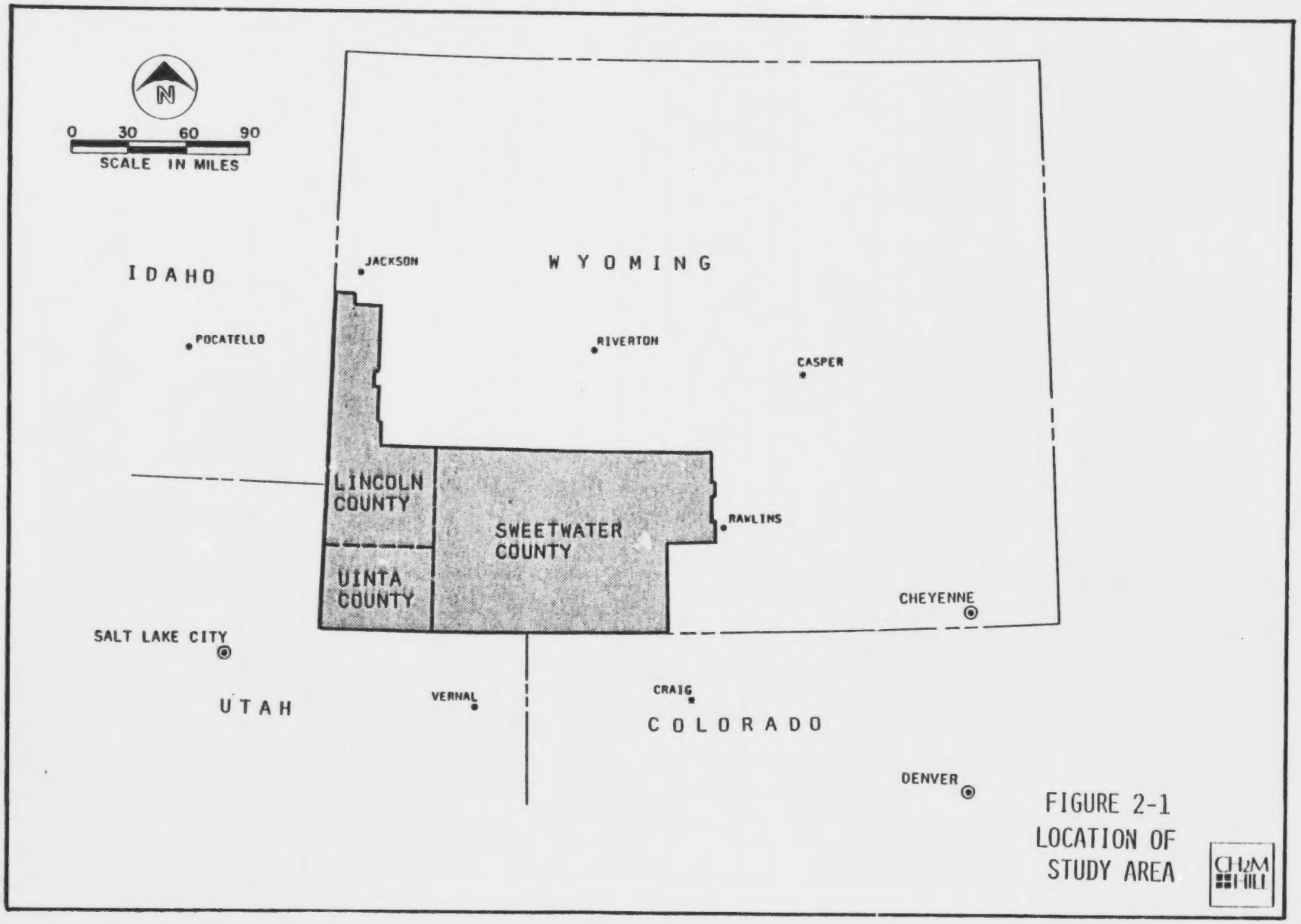


FIGURE 2-1
LOCATION OF
STUDY AREA

CH2M HILL

In Southwestern Wyoming, natural conditions make fishable/swimmable conditions unattainable in some streams. Names such as Muddy Creek, Dry Creek, and Bitter Creek, given to streams in the area long before man had much influence on their quality, are clear indicators that natural conditions make some waters undesirable for beneficial uses like fishing and swimming. The economic and environmental costs to take these streams out of their natural state in order to make them suitable for fishing and swimming are prohibitive.

A water quality goal has been defined for Southwestern Wyoming which reflects the natural constraints on water use and which accomodates the existing and desired uses of water. A list of existing and desired water uses for each of 52 stream reaches in the area has been developed by consultants in cooperation with local citizens and State agencies. Nine different types of uses, including swimming (primary contact recreation) and fishing, were found in the area. The list of existing and desired uses is presented on a reach-by-reach basis on Table 2-2 of the Technical Report and in Resolution #18.

A set of water quality criteria has been developed in the Technical Report for each use in order to determine whether instream water quality adequately protects that use. This set of criteria represents the water quality goal for a particular use. For example, it was found that water softening costs for industry increase by millions of dollars with increasing salinity. Therefore, maintenance of salinity at present levels has been defined as a water quality goal for industrial water use. A use impairment for industrial water supplies is said to occur if salinity levels are allowed to increase in a reach where industrial water supply is an existing or desired use. In this case, use impairment means higher costs for treatment. For other uses, use impairment may mean health impacts from drinking or swimming in polluted water, loss of recreational opportunities, a decrease in agricultural production, or loss of fish and wildlife.

WHAT ARE THE MOST PRESSING WATER QUALITY CONCERNS?

Staff and consultants have found numerous water quality problems and issues that could be addressed, some of which are very important to individuals on a small local basis. However, early in the study the decision was made to concentrate on those water quality aspects which were considered to be most important from an areawide perspective and for which an improvement plan could be implemented. With this approach, planning efforts were not drained by covering all identified water quality problems and producing a long list of controls, many of which would not be practical to implement. As a result, certain issues or problems may not be covered to the satisfaction of some readers.

A water quality problem was defined to be an impairment of an existing or desired water use caused by excessive concentrations of one or more pollutants. Three major areawide water quality problems were identified in this study. They are excessive salinity in the Green River Basin, excessive algae growth in reservoirs, and bacterial contamination of water supply wells and surface waters. Their impacts on water users are summarized on Table 2-1. Several other water quality problems of less regional significance are also discussed in the Technical Report.

Table 2-1

MAJOR WATER QUALITY PROBLEMS IN SOUTHWESTERN WYOMING

Water Quality Problem	Problem Constituents	Impacts
Excessively high concentrations of salts in the Green River Basin	Calcium Bicarbonate	Salinity increases in the Green River over the past several years have cost domestic water users in the study area several thousand dollars per year in additional water treatment costs, have cost industries in the study area hundreds of thousands of dollars per year in additional treatment costs, and have cost users downstream of the study area several millions.
	Sulfate	High sulfates have caused indigestion and diarrheal problems for domestic water users in the Rock Springs - Green River area.
Eutrophication in the reservoirs	Phosphorus	Algal growth is already excessive in the arms of Flaming Gorge Reservoir. These algal blooms are predicted to spread throughout the reservoir at some time in the future and cause a loss of recreational activities such as swimming and sport fishing. Recreation (primarily fishing) in Flaming Gorge Reservoir is an estimated $2 million per year industry in Southwestern Wyoming and a $6 million per year industry in neighboring states. Eutrophication of the reservoir is predicted to cause a loss of these recreational benefits at some indefinite time in the future.
Bacterial contamination of water supply wells and surface waters	Fecal Coliform	Present bacterial levels are potentially harmful to domestic water users primarily in the Bridger Valley and to swimmers and floaters primarily below the larger urban areas such as Rock Springs-Green River.

WHAT ARE THE CAUSES OF THESE PROBLEMS?

Sources of salinity and phosphorus are shown on Figure 2-2 and Figure 2-3 for that portion of the Green River Basin in the study area. While there is a large degree of uncertainty in the loading estimates, a sound conclusion is that natural sources are the most important contributors of salinity and phosphorus. Natural water discharges are estimated to contribute approximately half of the salinity, while natural or geologic erosion contributes a similar percentage of the phosphorus.

Manmade and man-induced sources deliver the rest of the salinity and phosphorus to the Green River system. The most important man-induced salinity source is irrigation return flow, which generates almost all the rest of the salinity in the study area. The most important man-induced phosphorus sources are overgrazing, manure runoff, and municipal wastewater discharges. Although not shown on the figure, channelization of the streams may also be an important phosphorus source. Enough information was not available on the extent of channelization to make reasonable estimates of phosphorus loadings from that source.

Excessive concentrations of fecal coliform are a third major water quality problem in the study area. By far the most important source of fecal coliform to surface waters is municipal wastewater discharges. Other sources are failing septic tanks and manure runoff. The only significant fecal coliform source to ground water is failing septic tanks.

The areas which deliver most of the salinity are shown on Figure 2-4. The most important area is the contact zone, where interaction of two geologic formations generates large quantities of sodium sulfate. Irrigation in Bridger Valley, Eden Valley, and along Henrys Fork provides ground water recharge to the contact zone and causes large increases in salinity loadings over the already high natural levels. A second area of importance is the highly saline Cretaceous shales. This area has the potential to deliver greater salt loadings if a source of recharge is provided in the future, such as irrigation or an impoundment of water.

The areas which deliver most of the phosphorus are shown on Figure 2-5. It is apparent from the information on the figure that phosphorus control measures should be concentrated in the Bitter Creek drainage, the Muddy Creek drainage, and a small part of the Blacks Fork drainage.

Bacterial contamination of wells has primarily occurred in Bridger Valley, although the conditions are right for producing well contamination in other parts of the three-county study area. The contamination is a result of poorly designed and constructed septic tanks in close proximity to the wells.

WILL ENERGY AND MINERAL RESOURCES DEVELOPMENT CAUSE FUTURE WATER QUALITY PROBLEMS?

Rock Springs, Green River, and Kemmerer have the atmosphere of boom towns. And yet the boom may have just begun. Vast deposits of trona, coal, uranium,

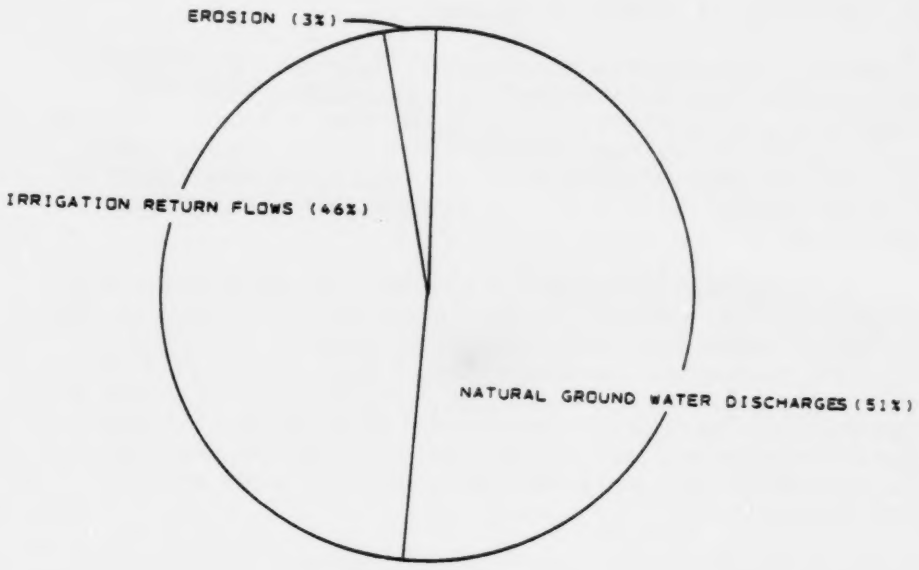


FIGURE 2-2
SALINITY SOURCES

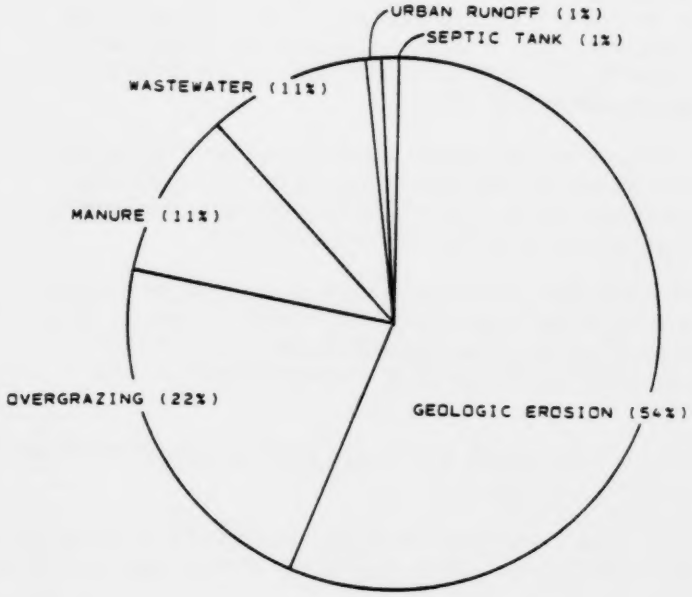
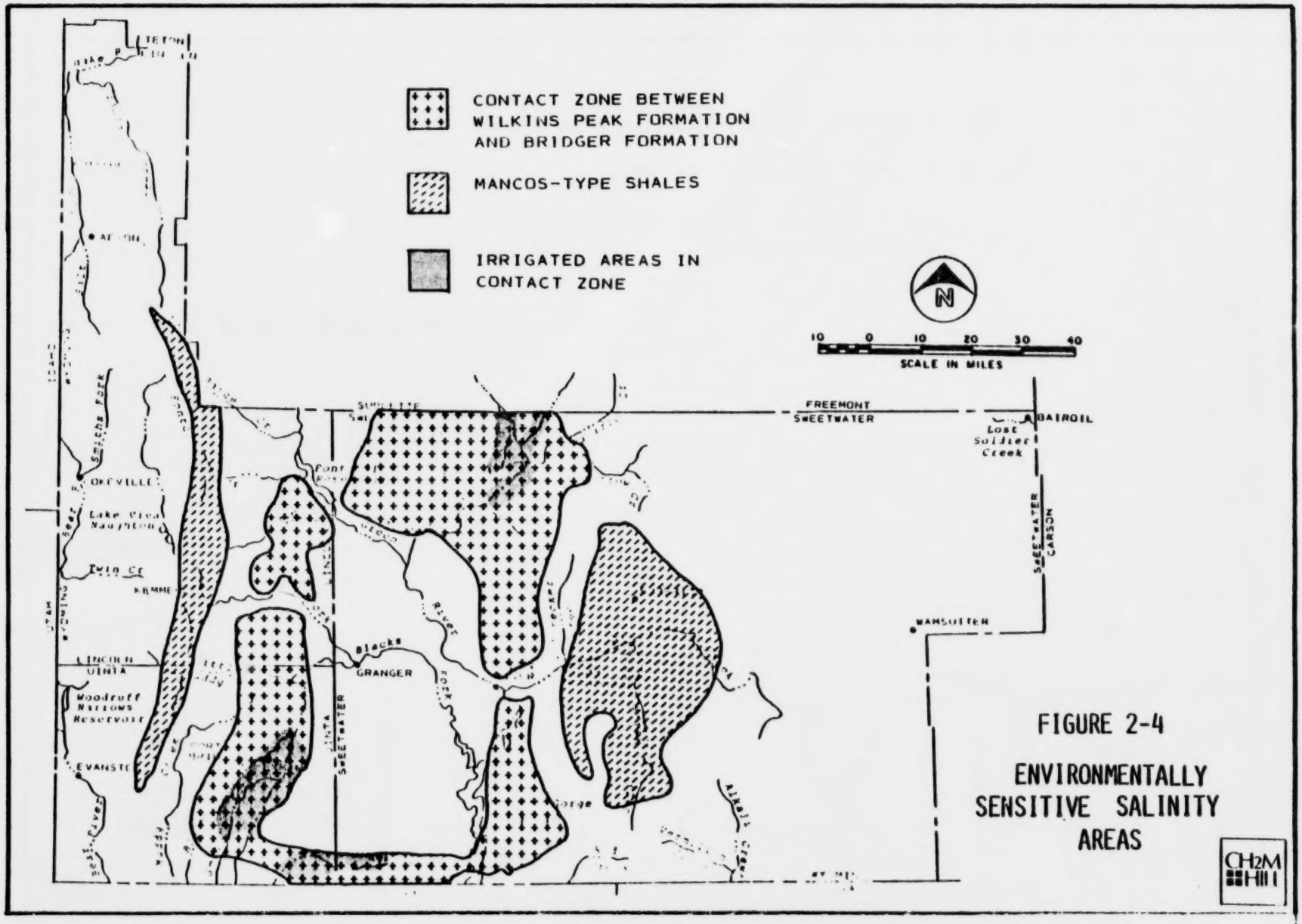


FIGURE 2-3
PHOSPHORUS SOURCES


CONTACT ZONE BETWEEN WILKINS PEAK FORMATION AND BRIDGER FORMATION
MANCOS-TYPE SHALES
IRRIGATED AREAS IN CONTACT ZONE
N
10 0 10 20 30 40
SCALE IN MILES
FREEMONT
SWEETWATER
BAIROIL
Lost Soldier Creek
SWEETWATER
CARBON
WAMSUTTER
GRANGER
Blacks Fork River
Green River
Woodruff Narrows Reservoir
EVANSTON
LINCOLN
UINTA
OREVILLE
Lake Viva Naughton
Twin Cr
KEMMERER
Smiths Fork
Bear River
Sulphur Creek
Fort Bridger
Muddy Creek
Little Muddy Creek
Big Sandy
Little Sandy
Big Sandy Creek
Bear River
Beaver Creek
Hams Fork
Thomas Fork
Sage Creek
Little Sage Creek
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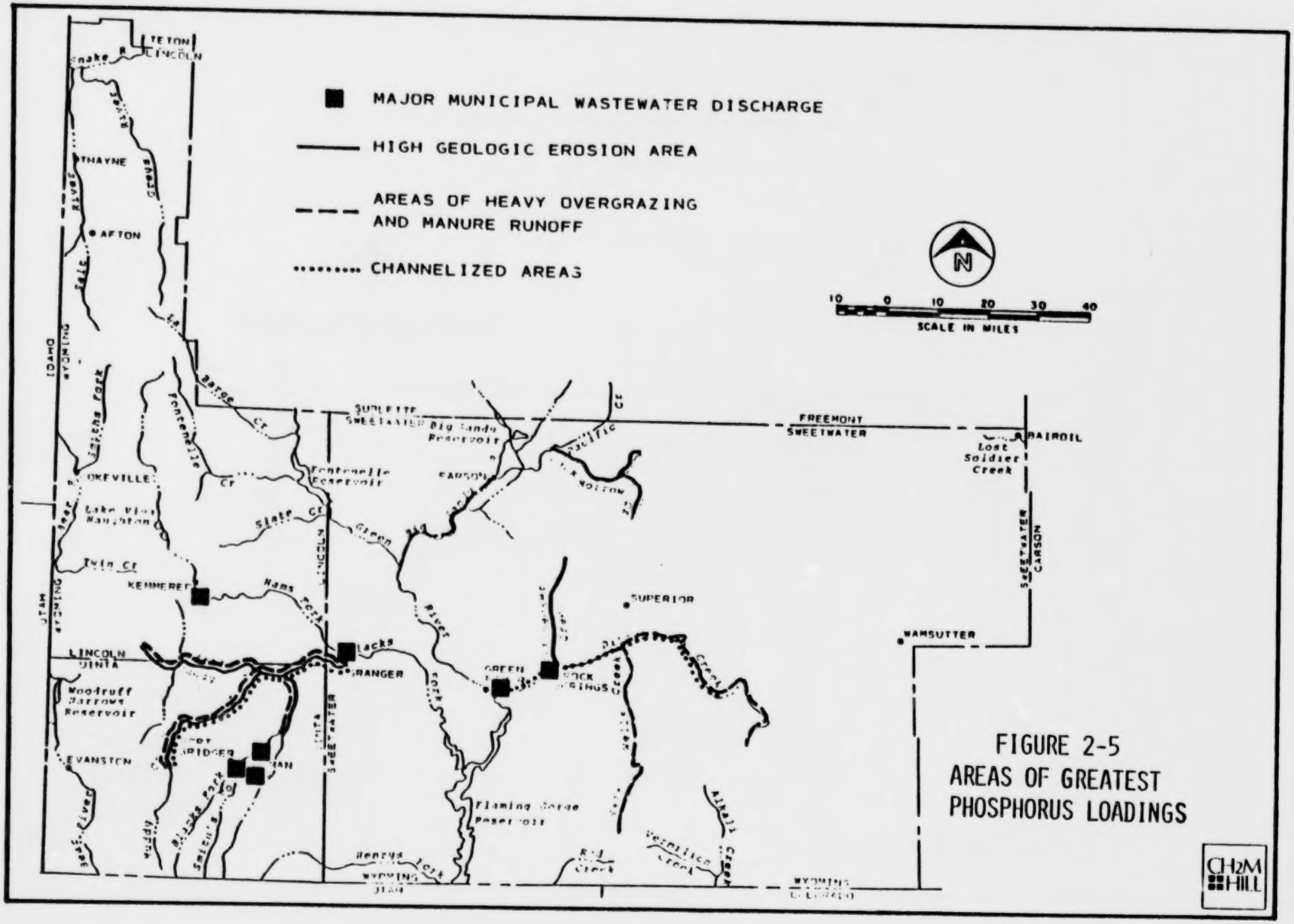

FIGURE 2-5
AREAS OF GREATEST
PHOSPHORUS LOADINGS

CH2M HILL

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and oil shale, and vast reserves of oil and natural gas are still to be developed. The development of these resources may cause water quality problems more severe than those already impacting the study area.

Although mining is extensive in the area, little of the existing water pollution can be directly attributed to it. Three reasons explain why pollutant loadings from present energy and mineral resources development are low. Mining sites are generally located far from surface waters, so the amount of erosion from the sites that reaches streams is negligible in most cases. A second reason is that no energy or mining industries currently discharge wastewaters directly to surface waters. A third reason is that energy and mineral resources development appears to take place in areas where any ground water recharge would not eventually reach surface waters in the study area.

The three factors cited above to explain the low pollutant loadings from present energy and mineral resources development are not expected to change significantly in the future. The Technical Report uses the best available information from the State of Wyoming to identify future mining sites. Most of these sites appear to be located far from surface waters and in areas where ground water does not impact surface waters. If the policy of total wastewater containment is continued, the primary impacts of future mining and energy resources development on water quality should be small.

While future primary impacts appear small, future secondary impacts of mineral resources development on water quality may be severe. These secondary impacts and their sources include--

- Greater consumptive use of water, which may have the effect of concentrating contaminants remaining instream. Given the best information on future diversions and depletions, future industrial use of water within the Green River Basin is not expected to significantly increase salinity concentrations. The reason for the minimal projected impact is that industries have planned to divert and consumptively use water of relatively high salinity. On the other hand, the Technical Report has shown that transbasin diversions may significantly increase (or decrease) concentrations, depending on where they are located.

- Population growth, which will increase the discharge of pollutants from wastewater treatment plants unless treatment is upgraded. The greater wastewater discharges are predicted to increase algal growths by 14-21 percent in Flaming Gorge Reservoir by the year 2000.

- Construction of roads, homes, and businesses, which will increase erosion rates unless special construction practices are used.

- Channelization of streams to protect roads, railroads, homes, and businesses, which may have the effect of increasing the stream gradient, thereby increasing both the erosive capabilities of the streams and their capabilities to carry sediment loads to the major rivers and reservoirs.

WHAT HAS BEEN ACCOMPLISHED TO DATE?

Some of the funds for 208 planning in Southwestern Wyoming were directed toward bringing municipal wastewater treatment plants into compliance with their NPDES discharge permits. The following municipalities have had facility plans completed under the 208 program: Evanston, Granger, Lyman, Mountain View, Jamestown-Rio Vista, South Superior, and Wamsutter. An engineering assessment report for Cokeville was also accomplished with 208 funds. Mountain View has gone into design and construction, while the others await State or Federal funds for design and construction.

The remainder of the 208 planning funds have been used for the establishment of the Southwestern Wyoming Water Quality Planning Association, the support of a staff in Evanston, and the hiring of consultants whose purposes were to identify water quality problems and the costs to alleviate them. Some of the accomplishments of this part of the program are listed below:

- The identification and quantification of water pollution in Southwestern Wyoming.
- The realization by local citizens of their water uses and water quality needs.
- The realization by local, State and Federal agencies of the most pressing local water quality concerns.
- The presentation to the responsible individuals of the trade-offs involved in water quality improvement
- The development of a recommended plan for water quality control in Southwestern Wyoming
- Involvement and cooperation by all responsible agencies in the development of that plan
- The delineation of environmentally sensitive areas capable of increasing pollutant loadings in the future
- The development of a water quality model for the Green River Basin
- The shooting of aerial photos for four urban areas undergoing rapid development

WHAT CAN BE DONE TO CONTROL SALINITY?

The Technical Report presents a subplan to control salinity. In order to maintain salinity at its present levels, the subplan asks for the implementation of irrigation water management practices in Eden Valley and the study of some in Bridger Valley. It also alerts management agencies to the environmentally sensitive areas for salinity, as shown on Figure 2-4, and presents a system for mitigating future salinity impacts caused by water resources development.

All of these actions have been recommended on the basis of favorable benefit-cost ratios for the Colorado River Basin, and occasionally for the study area itself. The implementation of those measures with a favorable benefit-cost ratio for the entire Basin but an unfavorable ratio in the study area would be contingent on receiving Federal cost-sharing funds to ease the financial burden on local ranchers.

WHAT CAN BE DONE TO CONTROL EUTROPHICATION?

The Technical Report establishes a permissible level for phosphorus loadings to Flaming Gorge Reservoir. As shown on Figure 2-6, this level is only 21 percent of the existing level. The thesis advanced in the Technical Report is that not much change in water quality will be observed until permissible levels are attained. An investigation of Figure 2-4 shows that to achieve permissible conditions by a 79 percent reduction in existing phosphorus loadings would require the control of some very difficult sources, such as geologic erosion, overgrazing, and manure runoff.

A cautious approach has been taken toward eutrophication control because of uncertainties about the effectiveness of measures to control these sources and because of the major adverse environmental and social impacts which may be caused by them. An environmental grazing statement presently being done by the Bureau of Land Management in the Muddy Creek drainage may answer some questions on effectiveness and environmental and social impacts, and a similar study could be initiated with 208 funds in the Bitter Creek drainage. In the meantime, an in-lake management program has been recommended and environmentally sensitive areas for phosphorus have been identified, as shown on Figure 2-5.

WHAT CAN BE DONE TO REDUCE BACTERIAL CONTAMINATION?

Fecal coliform discharges from wastewater treatment plants will be greatly reduced with the planned facility improvements. However, unless there is a change in the present practices, bacterial contamination from new and existing septic tanks will probably not decrease. Additions to the County-level staff are recommended to identify and correct problems with failing systems. A permit program has been designed for new systems to improve their installation and maintenance. The recommended funding for the septic tank program is primarily permitting fees.

WHAT IS THE RECOMMENDED PLAN?

The 29 elements of the Water Quality Management Plan recommended by the Association staff and consultants are listed on Table 2-2. This Plan is designed to eliminate the major regional use impairments caused by poor water quality. Some of the elements have high costs and serious social or environmental impacts, and may be unacceptable to either local people or management agencies. The Association has reviewed and revised this recommended Plan and the result is a locally adopted Water Quality Managment Plan for Southwestern Wyoming. This locally adopted Plan is presented in Chapter 4.

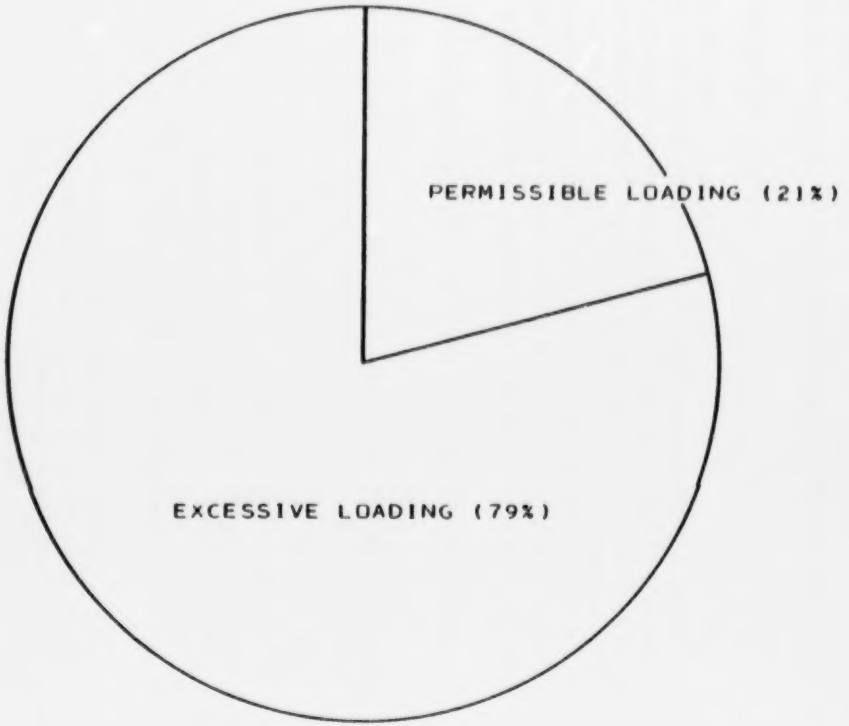

FIGURE 2-6
PHOSPHORUS GOAL

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Table 2-2

SUMMARY OF RECOMMENDED MANAGEMENT PLAN

Element	Management Agency (1)	Estimated Cost
General		
• A 208 Plan update in 1983	SWWQPA (2)	$ 80,000
Salinity Control		
• A continuation of the Big Sandy River Unit study	BR, SCS	Not determined
• A study of ground water interception in the Big Sandy recharge area	BR	$ 50,000-$200,000
• A study of sprinkler irrigation in Bridger Valley	SCS	$ 50,000-$150,000
• Adoption of influent and instream water quality standards for public water supplies and instream water quality standards for wildlife and livestock watering	DEQ	Not determined (3)
• Adoption of effluent salinity standards for point sources and a wasteload allocation program for nonpoint sources	DEQ, SE	Not determined (3)
• Control of water resources development and drilling activities	BLM, BR, DEQ, SE, OGC	Not determined (3)
• Consideration of diversion and depletion impacts	SE	Not determined (3)
• Improvement of irrigation efficiencies in Eden Valley	LCD	$150,000-$300,000/yr
• A study of salinity controls in Sublette County	DEQ	$ 20,000-$200,000
Phosphorus Control		
• A study of range management	BLM	$ 25,000-$ 60,000
• A study of channel improvements and sedimentation ponds on Muddy Creek and Little Muddy Creek	BLM	$ 25,000-$ 60,000
• Consideration of future water quality impacts	DEQ, SE, EPA	Not determined (3)
• A study of in-lake management	USFS	$250,000-$300,000/yr
• Erosion controls for construction and mining activities	DEQ, WHD	Not determined (3)
• A study of channel improvements and sedimentation ponds in Bitter Creek drainage basin	SWWQPA (2)	$ 20,000-$200,000
• A study of manure controls	WCC	Not determined
• A study of channel modifications in Bitter Creek	SWWQPA (2)	$ 50,000-$150,000
• A study of eutrophication in Palisades Reservoir	EPA	$ 20,000-$200,000
Other Issues		
• Management of individual waste systems	Counties	$300-400/unit
• Alternatives to Option 1 for Bridger Valley	EPA, BR, towns in Bridger Valley	Not determined
• Point source reductions of fecal coliform	DEQ	$500,000
• Water quality monitoring	USGS, DEQ	Not determined
• Clarification of institutional responsibilities for sewage treatment	SWWQPA	No direct cost
• Identification of ongoing 208 planning agency	SWWQPA	No direct cost
• Point source reductions of BOD	DEQ	No additional cost
• Adoption of a use-based approach to water quality	DEQ	Not determined
• A study of manure controls	WCC	Not determined
• Development of heavy metals standards	WGF	Not determined

1) Agency abbreviations:

SWWQPA	Southwestern Wyoming Water Quality Planning Association	DEQ	Wyoming Department of Environmental Quality
EPA	U.S. Environmental Protection Agency	SE	State Engineer
BR	U.S. Bureau of Reclamation	OGC	Wyoming Oil and Gas Commission
SCS	Soil Conservation Service	WHD	Wyoming Highway Department
BLM	U.S. Bureau of Land Management	WCC	Wyoming Conservation Commission
USFS	U.S. Forest Service	WGF	Wyoming Game and Fish Department
USGS	U.S. Geological Survey	LCD	Local Conservation Districts

2) This element may be assigned to the designated successor(s) to SWWQPA. This Plan recommends that Lincoln-Uinta Association of Governments and Sweetwater County be designated.

3) Adequate cost information not obtainable. Secondary costs of this element may be large.

The designated management agencies and estimated costs for each element of the recommended Plan are presented on Table 2-2. It is unlikely that funds will be available to implement all the elements of the recommended Plan. Therefore, the elements have been prioritized according to their apparent implementability and their estimated effectiveness in alleviating water quality problems. Those elements receiving highest priority are:

General

- A 208 Plan update in 1983

Salinity Control

- A continuation of the Big Sandy River Unit study
- A study of ground water interception in the Big Sandy recharge area
- A study of sprinkler irrigation in Bridger Valley
- Adoption of influent and instream water quality standards for public water supplies and instream water quality standards for wildlife and livestock watering
- Adoption of effluent salinity standards for point sources and a wasteload allocation program for nonpoint sources
- Control of water resources development and drilling activities
- Consideration of diversion and depletion impacts

Phosphorus Control

- A study of range management
- A study of channel improvements and sedimentation ponds on Muddy Creek and Little Muddy Creek
- Consideration of future water quality impacts

Other Issues

- Management of individual waste systems
- Alternatives to Option 1 (management of individual waste systems) for Bridger Valley, such as irrigation water management to lower ground water tables and abandonment of the ground water system for public water supplies
- Point source reductions of fecal coliform

- Water quality monitoring
- Clarification of institutional responsibilities for sewage treatment
- Identification of an ongoing 208 planning agency

These elements are described in detail in the Technical Report.

WHAT HAPPENS NOW?

The Plan approved by the Association is only one step of the 208 planning process. In order to translate this document into a series of actions related to water quality control, the following steps must yet be taken:

- The Wyoming Environmental Quality Council must certify the Plan for action by the Governor
- The Governor must certify the Plan
- The Environmental Protection Agency must approve the Plan
- Agencies at the local, State, and Federal levels must act where called upon in the Plan

No 208 planning process to date anywhere in the country has yet to result in an unconditionally approved Plan by the Governor and in a coordinated effort to enhance water quality. The Association has attempted to improve the chances for implementation of this Plan (1) by aspiring to reasonable goals rather than to lofty ideals, (2) by considering and incorporating the needs of local citizens and State agencies throughout the formation of this Plan, (3) by using existing laws, agencies, and customs wherever possible, and (4) by identifying clearly who is responsible for doing what action under what authority, at what cost, and for what purpose.

Chapter 3
INDIVIDUAL AND AGENCY REVIEW COMMENTS

From the inception of the 208 planning process for Southwestern Wyoming, emphasis has been placed on public and agency involvement in the formulation of the Water Quality Management Plan. Early involvement was recognized as necessary to resolve differences into an implementable and workable plan. An active Technical Advisory Committee and an active group of local citizens have made public and agency involvement an effective and meaningful input into the development of the Water Quality Management Plan for Southwestern Wyoming.

Of course, not all the differences among agencies and individuals which have surfaced over the last 3 years have been resolved. Most of the controls remain controversial for one reason or another. However, a dialogue has been established among agencies and individuals which has led and can continue to lead to a greater understanding of the differences and to a coordinated attack on water pollution.

FORMAL PUBLIC REVIEW

Broad agency and public review has been formally solicited at four points in the planning process, as listed below:

- In January 1977, for the *Interim Clean Water Report for Southwestern Wyoming*
- In August 1977, for the *Preliminary Draft Technical Report, Clean Water Report for Southwestern Wyoming*
- In September 1977, for the *Draft Technical Report, Clean Water Report for Southwestern Wyoming*
- In November 1977, for the draft resolutions constituting the elements of the Water Quality Management Plan

Written comments and tapes of the public hearings obtained from these reviews are available at the Southwestern Wyoming Water Quality Planning Association office in Kemmerer.

Comments on the Technical Report and on the draft resolutions have been the most extensive and have had the greatest impact on the development of the Water Quality Management Plan. Over 100 pages of comments have been received on the Technical Report alone. Those agencies and individuals who have submitted written comments on the Technical Report and draft resolutions to the Association are listed on Table 3-1.

Table 3-1

AGENCIES AND INDIVIDUALS SUBMITTING COMMENTS ON THE TECHNICAL PLAN OR DRAFT RESOLUTIONS

Federal Level

1. Department of Agriculture, Forest Service
2. Department of Agriculture, Soil Conservation Service
3. Department of the Army, Corps of Engineers, Omaha District
4. Department of the Interior, Bureau of Land Management, State Office
5. Department of the Interior, Bureau of Outdoor Recreation, Mid-Continent Region
6. Department of the Interior, Bureau of Reclamation, Upper Colorado Regional Office
7. Department of the Interior, Geological Survey, Water Resources Division
8. Environmental Protection Agency, Region 5

State Level

1. Commissioner of Public Lands and Farms Loans
2. Department of Environmental Quality, Water Quality Division
3. Department of Health and Social Services
4. Game and Fish Department
5. Governor
6. State Engineer's Office
7. State Highway Department
8. University of Wyoming, Agricultural Extension Service
9. University of Wyoming, Water Resources Research Institute

Local Level

1. Mr. John C. Borzea
2. Mr. Allan P. Herring
3. Mr. Bruce Smith
4. Sweetwater County, Planning and Zoning Commission
5. Sweetwater County, Sanitarian

This report will not attempt to cover individually each comment relating to the Technical Report and draft resolutions. Instead, it will attempt to summarize the more important differences of opinion and clarify some confusing points. The association staff and consultants are available to discuss further those comments not adequately covered in this brief summary.

SUMMARY OF REVIEW COMMENTS

Some of the more frequently expressed comments on the Technical Plan are covered below:

Eutrophication and Erosion Control Program. Several agencies considered this program to be not ambitious enough. Their major concern was that the scheduled erosion control studies were not going to provide useful information, and therefore there was no need to wait until their completion. However, several other agencies considered the program too ambitious in light of the uncertainties about costs and benefits. Numerous comments were made that the approach to in-lake management in the Technical Report was too positive.

Salinity Control Program. Many agencies wanted a more detailed discussion on the feasibility of diverting Big Sandy River. Several agencies recommend the Bureau of Reclamation's salinity benefit estimate of $230,000 per milligram per liter instead of the estimate of $430,000 per milligram per liter which was used in the Technical Report and the Type IV study for the Green River Basin.

Loadings Budgets. Many agencies emphasize that the loadings budgets for salinity and phosphorus are only estimates, and that they differ considerably from their own estimates. However, when the other estimates were checked, it was found that an agreement existed among them on the relative importance of natural and man-induced sources and on the geographical areas from which most of the loadings were delivered.

Ammonia. On Table 3-6 of the Technical Report, the ammonia criterion was shown to be exceeded in 11 reaches. Several agencies asked why a discussion of ammonia sources and controls was not included in the final report. The reason for exclusion is that pH and temperature were not monitored at the same time as ammonia, and therefore it was impossible to identify confidently how much ammonia was in the toxic unionized form. Table 3-6 indicates ammonia violations if the worst possible pH and temperature conditions existed at the time of monitoring. The report recommends 1 or 2 years of coordinated monitoring of ammonia, temperature and pH in order to confidently identify ammonia toxicity problems before any ammonia controls are instituted.

Agency Participation. In most cases, the report identifies only lead agencies for the controls. As noted in the review comments, the lead agencies can obtain valuable technical support from other sources such as the Water Resources Research Institute, the Agricultural Extension Service and others.

Great Divide Basin. Several agencies felt that the Technical Report should have addressed the potential impact of mining in the Great Divide Basin on the water quality of surface and ground water resources.

Water Use Designations. Areas of disagreement occur for existing and projected water uses in the study area, particularly for primary contact recreation (swimming) and fisheries.

PUBLIC HEARINGS

Public hearings on the Technical Report were held in Evanston, Kemmerer, and Green River in November 1977. Transcripts of each meeting are available from the Southwestern Wyoming Water Quality Planning Association. A questionnaire was passed out at each hearing, and 40 responses were obtained on some of the more controversial points in the Technical Report. A summary of these responses is presented below.

- Eutrophication. Five out of every six people favor controlling eutrophication in Flaming Gorge Reservoir. The more popular control measures are additional soil conservation practices and phosphorus reduction at the municipal wastewater treatment facilities. The least popular control measure is moving grazing away from the stream courses. The Bureau of Land Management and Local Conservation Districts are preferred to carry out any erosion studies. The most favored way to pay for eutrophication controls is recreational uses fees in Flaming Gorge National Recreation Area, while the least favored way is local taxes.

- Salinity. The most favored approach to salinity is to set salinity goals within the study area, while the least favored approach is no action. If irrigation practices are changed in Eden Valley and Bridger Valley, respondents think that a combination of groups should pay for the changes, including downstream users of the water.

- Septic Tanks. Respondents strongly favor a more intensive septic tank management program run by the Counties and paid through permit fees. The favored program includes design review permits, construction inspection permits, and operating inspection permits.

Chapter 4
LOCALLY ADOPTED WATER QUALITY MANAGEMENT PLAN

The Technical Report describes that certain existing or desired uses of water in the Southwestern Wyoming study area are impaired by high levels of pollutants. For example, high salinity was found to add to the cost of water for industry and domestic water users, as well as cause some health problems in a few water supplies for people, livestock, and wildlife. Phosphorus is being delivered to Flaming Gorge Reservoir at such a high rate to cause algae-clogged conditions in the reservoir. And bacterial contamination from failing septic tanks and wastewater discharges might be a health hazard to swimmers and some domestic wells. The locations and causes of these use impairments are discussed in the Technical Report.

The final chapter of the Technical Report contains a Water Quality Management Plan which addresses the water quality problems mentioned above. The Plan is designed to improve water quality to the point where it can accommodate the existing and desired uses of water in the study area. The list of existing and desired uses was generated through conversations with local citizens, industry, and State officials.

In order to attain the water quality goal for existing and desired uses, the Plan has had to contain elements which appear to have major drawbacks. Some elements seem to have high costs. Several appear to be questionable from the standpoint of technical, legal, or administrative feasibility. And many have been judged to have significant environmental and social impacts.

The draft Water Quality Management Plan developed in the Technical Report was translated into 32 resolutions and presented to the Southwestern Wyoming Water Quality Planning Association in January 1978. During the following 6 months, the Association weighed the costs, social impacts, and environmental impacts of the control measures against the potential water quality benefits. Some of the original resolutions were eliminated during the review, others were modified, and several new ones were added. A Water Quality Management Plan, consisting of the Technical Report and 28 redrafted resolutions, was adopted by the Association on 27 July 1978.

The philosophy of the locally adopted 208 Water Quality Management Plan is outlined below:

- The Plan recognizes the water quality problems documented in the Technical Report, which cause impairment in the use of water
- The present water quality problems are not of such severity to require the immediate implementation of new control programs, many of which have intolerably high costs, social impacts, or environmental impacts

- More severe water quality problems may arise in the future which require the implementation of stronger water quality control programs than those which presently exist

- Environmentally sensitive areas should be identified and an adminstrative framework be set up to mitigate water quality impacts in the future

- A local voice should be retained in water quality issues

The titles of the 28 resolutions which comprise the locally adopted Water Quality Management Plan are listed on Table 4-1. The management agencies designated in each of the resolutions are identified on Table 4-2. Those resolutions without designated management agencies are generally policy statements. A brief synopsis of the approach to each issue is presented below:

- Salinity Control. The goal of this program is to keep salinity loadings from Wyoming at their existing levels. This policy should allow for the development of Wyoming's Compact water with due consideration and mitigation of the salinity impacts associated with the development. No sound technical basis has been found for economic-based salinity standards in the study area (Resolution #2); however, a few standards have been recommended to indicate particularly health-related salinity impacts on public water supplies (Resolution #28). The program acknowledges support for an existing salinity control study (Resolution #3), recommends several other alternatives that should be considered (Resolution #26), and indicates concern over future salinity increases (Resolutions #4 and #5). Environmentally sensitive areas with respect to salinity are identified in Resolution #5.

- Phosphorus and Erosion Control. The goal of this program is to control eutrophication in Flaming Gorge Reservoir. This reservoir was selected over the other reservoirs in the study area because it has the largest amounts of economic benefits associated with recreation. The potential loss of these benefits may justify the expensive controls necessary to reduce phosphorus loadings to the reservoir. A desirable level of phosphorus in the reservoir has been defined (Resolution #6). However, a cautious approach to phosphorus control has been suggested (Resolution #8) because of the uncertainty about benefits (Resolution #7) and the uncertainty about the effectiveness of certain necessary control measures (Resolutions #10 and #11). While this information is being gathered, several measures (Resolutions #9, #12, and #27) should be considered for implementation to slow eutrophication in the reservoir. Phosphorus removal at wastewater treatment plants should not be required immediately; its necessity in the future is contingent on the results of the previously mentioned studies on benefits and effectiveness. While the emphasis is on Flaming Gorge Reservoir, a less detailed study of Palisades Reservoir (Resolution #13) is also recommended. In order to anticipate

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Table 4-1

RESOLUTIONS COMPRISING THE LOCALLY ADOPTED PLAN

Salinity Control

Resolution 2 -- A policy for economic-related salinity goals.
Resolution 28 -- Chloride, sulfate, and total dissolved solids standards to protect public water supplies and wildlife and livestock watering.
Resolution 3 -- Study and implementation of salinity control measures in the Eden Valley.
Resolution 26 -- Improvement of irrigation efficiencies in the Bridger Valley and Eden Valley.
Resolution 4 -- Salinity impacts of changing diversions or depletions.
Resolution 5 -- Control of new salinity sources in sensitive areas.

Phosphorus and Erosion Control

Resolution 6 -- Instream phosphorus standards for Southwestern Wyoming.
Resolution 7 -- Benefits of phosphorus control in Flaming Gorge Reservoir.
Resolution 8 -- Schedule for phosphorus control.
Resolution 9 -- In-lake management for Flaming Gorge Reservoir.
Resolution 10 -- Reduction of phosphorus loadings from the Muddy Creek drainage by erosion control.
Resolution 11 -- Structural erosion controls in Bitter Creek Basin.
Resolution 12 -- Erosion control for construction and mining activities.
Resolution 27 -- Control of new phosphorus sources in sensitive areas.
Resolution 25 -- Management practice process for the Bureau of Land Management and the State of Wyoming.
Resolution 13 -- Phosphorus control study for Palisades Reservoir.
Resolution 14 -- Evaluation of use impairment of reservoir projects.

Wastewater Treatment

Resolution 15 -- Individual waste disposal management.
Resolution 16 -- Adequacy of current secondary treatment requirements to meet water quality goals.
Resolution 17 -- Designation of wastewater treatment management agencies.

Water Quality Standards

Resolution 18 -- A use-based approach to water quality.
Resolution 19 -- Identification of certain streams and stream segments in which the 1983 fishable/swimmable goal appears not attainable.
Resolution 20 -- Instream suspended solids standards.
Resolution 21 -- Study of impact of high instream metals levels.

Other Issues

Resolution 1 -- Continuing areawide waste treatment management in Lincoln, Uinta, and Sweetwater Counties, Wyoming.
Resolution 22 -- Source studies of fecal coliform.
Resolution 23 -- Water quality monitoring program for Southwestern Wyoming.
Resolution 24 -- Maintaining fishable waters in the Green River.

Table 4-2

MANAGEMENT AGENCIES

Resolution	Management Agencies
1	Lincoln-Uinta Association of Governments, Sweetwater County
2	Wyoming Department of Environmental Quality, State Engineer
3	Bureau of Reclamation, Soil Conservation Service
4	State Engineer
5	Wyoming Department of Environmental Quality, State Engineer, Wyoming Plant Siting Council, Bureau of Reclamation, Bureau of Land Management, U.S. Geological Survey, Bridger Valley Conservation District, Big Sandy Conservation District, Lincoln County, Uinta County, Sweetwater County
6	Wyoming Department of Environmental Quality
7	Lincoln-Uinta Association of Governments, Sweetwater County Planning Commission
8	
9	Environmental Protection Agency, U.S. Forest Service, Bureau of Reclamation, U.S. Geological Survey, U.S. Bureau of Fisheries and Wildlife.
10	Bureau of Land Management
11	Sweetwater County, City of Rock Springs
12	Wyoming Highway Department, Wyoming Department of Environmental Quality, Bureau of Land Management, Lincoln County, Uinta County, Sweetwater County
13	Envrionmental Protection Agency
14	Wyoming Department of Environmental Quality, State Engineer
15	Lincoln County, Uinta County, Sweetwater County
16	
17	
18	Wyoming Department of Environmental Quality, Lincoln-Uinta Association of Governments, Sweetwater County
19	
20	Wyoming Department of Environmental Quality, Wyoming Game and Fish Department
21	Wyoming Game and Fish Department
22	Wyoming Department of Environmental Quality, Bureau of Land Management
23	Wyoming Department of Environmental Quality, U.S. Geological Survey
24	Wyoming Department of Environmental Quality, State Engineer, Wyoming Game and Fish Department
25	
26	Bridger Valley Conservation District, Big Sandy Conservation District
27	Wyoming Department of Environmental Quality, Bureau of Land Management
28	Wyoming Department of Environmental Quality

problems like those at Flaming Gorge Reservoir, it is suggested that in the future the recreational potential of new reservoirs be evaluated closely from the perspective of projected water quality (Resolution #14). Environmentally sensitive areas from the standpoint of phosphorus and erosion are identified in Resolution #27.

- Wastewater Treatment. The counties should continue to be responsible for reducing pollution from improperly designed and operating septic tanks (Resolution #15). The details of this program have been left to the counties. Advanced wastewater treatment of municipal sewage wastes is not necessary at the present time to meet the existing water quality needs in the study area (Resolution #16). The existing institutional framework appears adequate to handle the sewage treatment needs in the area (Resolution #17).

- Water Quality Standards. A use-based water quality standards system, with more use categories than the existing State system, is recommended for the area (Resolutions #18 and #19). A clarification of some of the criteria associated with that use-based system has been requested in order to better identify existing and future water quality problems (Resolutions #20 and #21).

- Other Issues. Source studies of fecal coliform have been recommended (Resolution #22) in order to improve the cost effectiveness of any program to control bacteria and viruses. Ten changes in the water quality monitoring program (Resolution #23) have been suggested to tailor that program better to the most pressing water quality concerns. The State Engineer has been requested to require Environmental Impact Statements for future diversions and depletions from the Green River (Resolution #24). Finally, the Association will dissolve and its responsibilities will be assumed by the Lincoln-Uinta Association of Governments and Sweetwater County (Resolution #1).

The 28 resolutions passed by the Association are presented on the following pages. The management agencies designated in each resolution have been asked to respond to the resolutions in one of four ways: acceptable, acceptable with conditions, not acceptable, not applicable. The Wyoming Governor will then review these replies and determine whether the locally adopted Water Quality Management Plan is acceptable, acceptable with conditions, or not acceptable.

Resolution #1

Title: Continuing areawide waste treatment management in Lincoln, Uinta, and Sweetwater Counties, Wyoming.

Purpose: This resolution directs that the Southwestern Wyoming Water Quality Planning Association dissolve and that the Lincoln-Uinta County Association of Governments and Sweetwater County coordinate water quality planning and management in said counties.

Technical Basis: WHEREAS, the Southwestern Wyoming Water Quality Planning Association was designated by the Governor of Wyoming as the agency to carry out water quality planning in said counties under Section 208 of PL 92-500, and

WHEREAS, said Association has developed a water quality management plan for said counties, as charged, and

WHEREAS, said Association finds that the Lincoln-Uinta Association of Governments and Sweetwater County are capable of coordinating future planning and implementation associated with its plan.

Action: BE IT THEREFORE, RESOLVED by the Southwestern Wyoming Water Quality Planning Association that it recommends the Lincoln-Uinta Association of Governments as the ongoing 208 planning agency for water quality in Lincoln County and Uinta County, and that it recommends Sweetwater County as the ongoing 208 planning agency for water quality in Sweetwater County, and

BE IT FURTHER RESOLVED by said Association that said designated governments be the recipients of further 208 water quality planning funds.

BE IT FURTHER RESOLVED that the Southwestern Wyoming Water Quality Planning Association will be dissolved pursuant to the procedures established within its bylaws.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer, or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gentzler
Attest

Resolution #2

Title: A policy for economic-related salinity goals.

Purpose: This resolution directs the Wyoming Department of Environmental Quality not to adopt economic-related instream salinity goals either at stateline or at other points within the study area until a defensible technical basis is found. In lieu of economic-based instream salinity goals, this resolution directs the Wyoming Department of Environmental Quality to adopt (1) discharge standards for point sources and (2) a policy of no increase in salt loads from nonpoint sources.

Technical Basis: WHEREAS, Wyoming has a goal, stated in the Wyoming Water Quality Standards for Surface Water, of no net increase in salinity over existing conditions, and

WHEREAS, the "Clean Water Report for Southwestern Wyoming," dated August 1978, could find no technologically sound method of defining existing instream conditions for salinity, and

WHEREAS, said Report shows that increases in man-induced salinity loadings to the Green River system will result in greater economic costs to industrial and domestic water users within Southwestern Wyoming,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through 9-276.33 and its bylaws that the Wyoming Department of Environmental Quality not adopt economic-related instream salinity goals, either at stateline or at other points within the study area, until a defensible technical basis is found for a standard or until the State of Wyoming is legally required to establish such standards, and

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Wyoming Department of Environmental Quality under the authority cited above continue to set effluent limitations on the surface discharge of water associated with the production of oil and gas, as stated in Section 4, Chapter VII of the Wyoming Water Quality Rules and Regulations, and

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Wyoming Department of Environmental Quality under the authority cited above and the Wyoming State Engineer

adopt a policy of no net increase in salinity loadings from nonpoint sources in Wyoming.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 19 78

Southwestern Wyoming Water
Quality Planning Association

Richard A. Gentzkow
Attest

By Eugene B Morton
Chairman

Resolution #3

Title: Study and implementation of salinity control measures in the Eden Valley.

Purpose: This resolution acknowledges support for continued study of salinity control measures in the Big Sandy Unit.

Technical Basis: WHEREAS, the "Clean Water Report for Southwestern Wyoming," dated August 1978, has shown that salinity has negative economic and health-related impacts on water users in Southwestern Wyoming and in downstream sections of the Colorado River systems, and

WHEREAS, said Report has shown that the Big Sandy River is a major salinity contributor to the Colorado River system, and

WHEREAS, said Report has shown that control of salinity in the Big Sandy River system is cost-effective,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through 9-276.33 and its bylaws that it supports the assistance programs, research projects, and demonstration projects presently being carried out in the Big Sandy Unit. and

BE IT FURTHER RESOLVED by said Association under the authority cited above that beginning in 1978, the United States Department of the Interior and the United States Department of Agriculture deliver either separately or jointly an annual report to the Lincoln-Uinta Association of Governments (LUAOG) and to Sweetwater County government which summarizes the progress made on such projects and gives recommendations for future actions. Said report will be in writing and will be accompanied by an oral presentation, if requested by LUAOG or Sweetwater County.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Jentzsch
Attest

Resolution #4

Title: Salinity impacts of changing diversions or depletions.

Purpose: This resolution notifies various agencies to investigate the salinity impacts of any proposed change in diversion or depletion patterns within the Green River drainage in Southwestern Wyoming.

Technical Basis: WHEREAS, in the "Clean Water Report for Southwestern Wyoming," dated August 1978, it is described in Chapter 6 that the best current projection of water depletions, as shown in Exhibit 4-A, will result in only slight changes in total dissolved solids concentrations in the Green River in Sweetwater County in Wyoming in the future, and

WHEREAS, said Report describes that diversions of water out of the Green River drainage may significantly change salinity concentrations in the Green River, and

WHEREAS, said Report describes that salinity concentrations are of concern in the study area because of deleterious effects on the health of humans, livestock, and wildlife, and

WHEREAS. said Report describes that higher salinity concentrations will cause widespread economic impacts for industry and domestic water users in Southwestern Wyoming, and also downstream users not in Wyoming,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through 9-276.33 and its bylaws that the Wyoming State Engineer study the potential salinity impacts of any change in the depletion predictions shown in Exhibit 4-A. When such study has been completed, the State Engineer shall notify the Lincoln-Uinta Association of Governments and Sweetwater County government of the results.

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Wyoming State Engineer study the potential salinity impacts of any diversion and notify the Lincoln-Uinta Association of Governments and Sweetwater County government of the results of such study.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities

called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gustafson
Attest

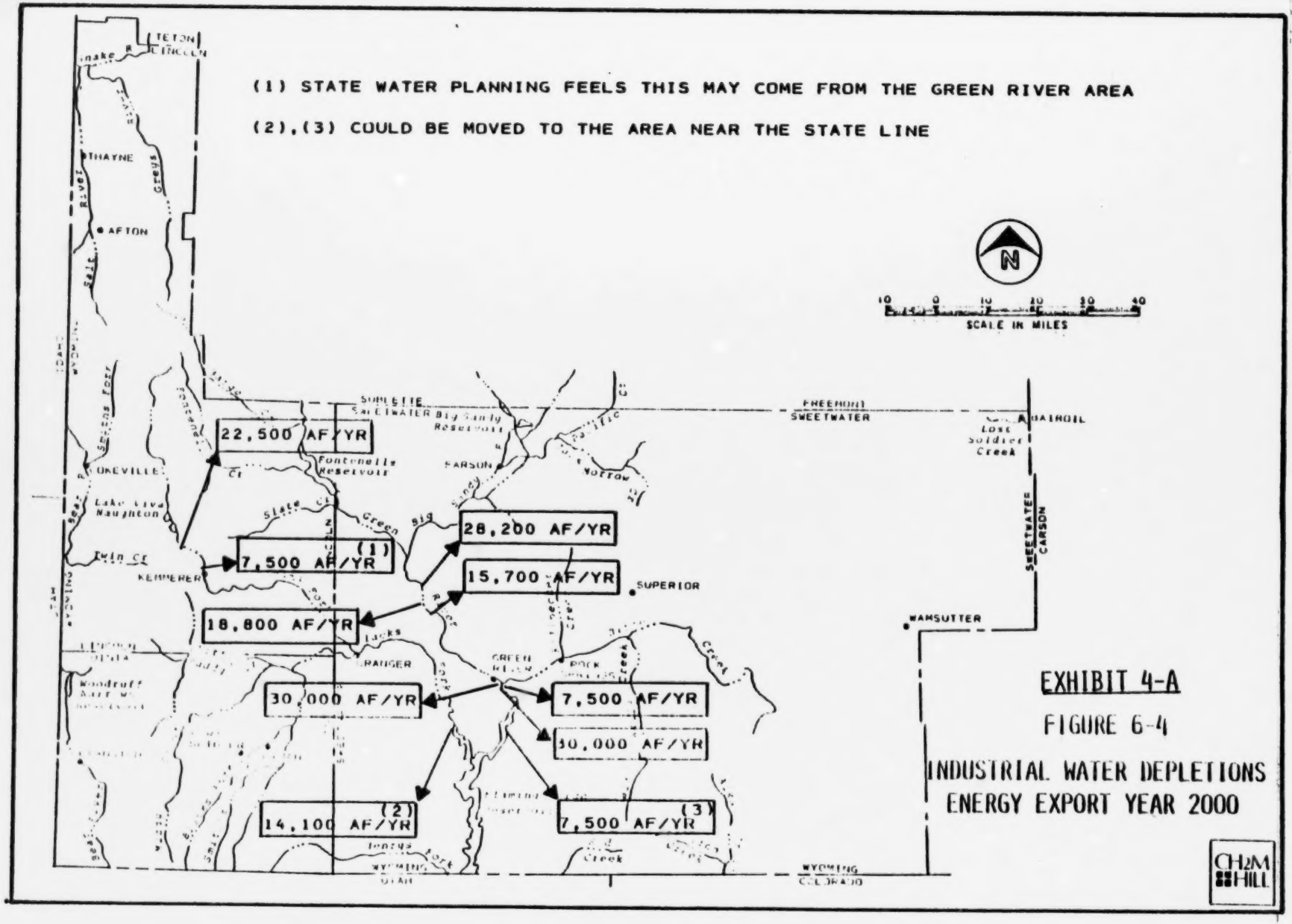

EXHIBIT 4-A

FIGURE 6-4

INDUSTRIAL WATER DEPLETIONS
ENERGY EXPORT YEAR 2000

CH2M HILL

Resolution #5

Title: Control of new salinity sources in sensitive areas.

Purpose: This resolution sets forth concerns of the Southwestern Wyoming Water Quality Planning Association about the potential for salinity water quality impacts from water resource development in specific areas, and directs various agencies to consider such impacts in developing and reviewing proposed projects.

Technical Basis: WHEREAS, the "Clean Water Report for Southwestern Wyoming", dated August 1978, describes an area therein called the contact zone and areas of Mancos-type shales where percolating water can cause serious salinity increases in surface and ground waters, both types of areas being as shown on Exhibit 5-A, and

WHEREAS, the Wyoming State Engineer has responsibility under Section 5 of Article 8 of the State Constitution and WS 41-203 for review and approval of water resource development projects in Wyoming, and

WHEREAS, the Department of Environmental Quality has responsibility under WS 39-502.1 through WS 39-502.56 for water quality management in Wyoming,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that the Wyoming Legislature consider enacting necessary legislation to:

1. Designate the State Engineer to have final responsibility for managing salinity water quality impacts due to water resources development, and

2. Establish a procedure for the review and evaluation of such projects whether proposed by Federal, state, local or other government or by private party, and

3. Authorize and obligate the necessary funds and for manpower for said state agency to perform this role.

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Wyoming Department of Environmental Quality, the Bureau of Reclamation, the Bureau of Land Management, the

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United States Geological Survey, the Wyoming State Engineer, the Wyoming Plant Siting Council, the Bridger Valley Conservation District, the Big Sandy Conservation District, the Counties of Sweetwater, Lincoln, and Uinta, and any other agencies involved in the regulation of land use and water resources development be responsible for reviewing plans for any and all reservoir, irrigation, or other water resource projects in these counties to determine whether:

1. Such projects would be located on or near the contact zone or the mancos-type shales as described in said Report or as may be further defined in subsequent publications.

2. Such projects would result in movement of ground water into or through said areas.

3. Such ground water movement would result in deleterious impact on ground or surface waters.

4. The plan for the proposed projects contains mitigating actions to reduce salinity or its impacts should they occur.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gentzsch
Attest

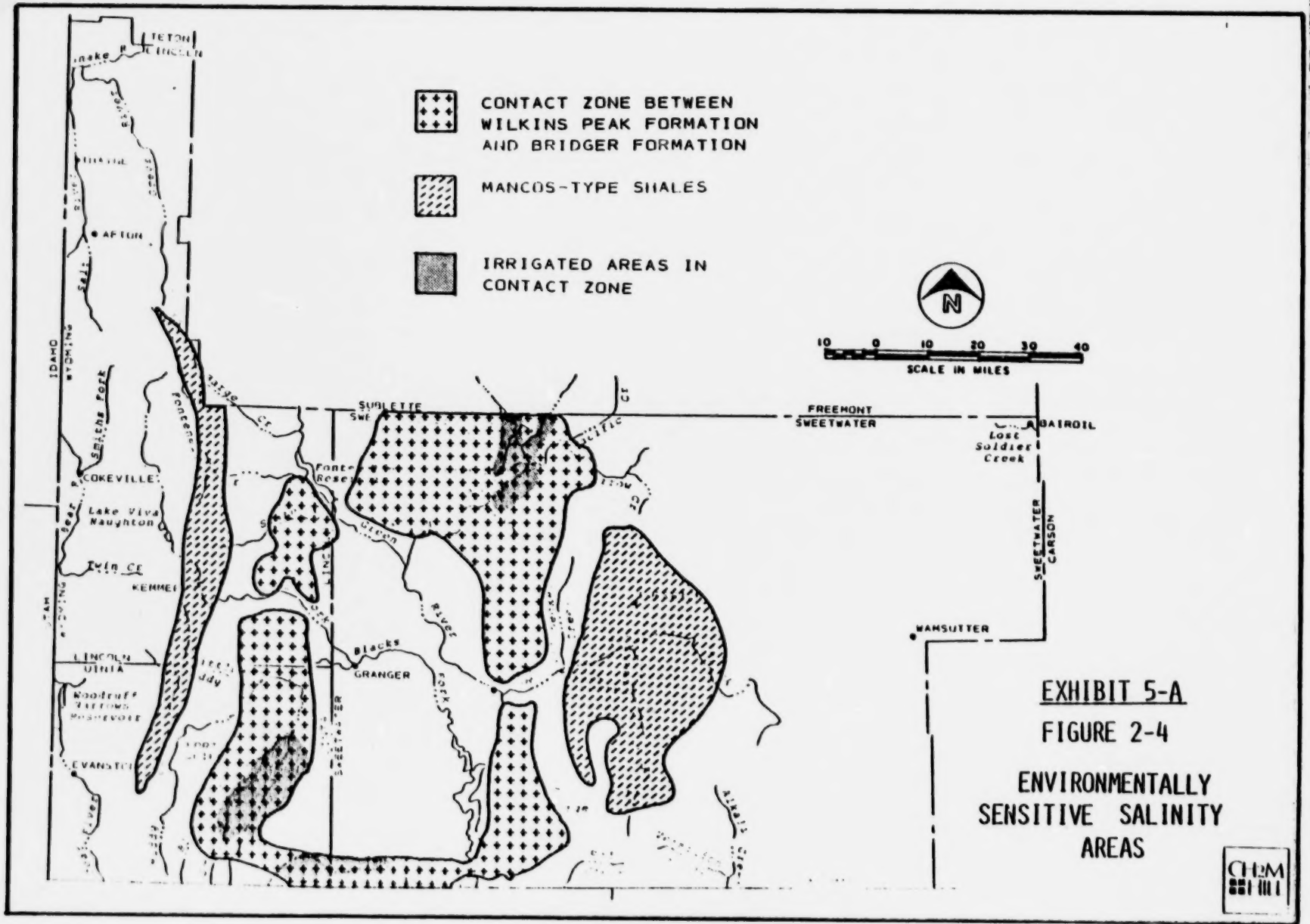

EXHIBIT 5-A

FIGURE 2-4

ENVIRONMENTALLY SENSITIVE SALINITY AREAS

CH2M HILL

81-14

Resolution #6

Title: Instream phosphorus standards for Southwestern Wyoming.

Purpose: This resolution directs that one year after the completion of feasibility studies for control of erosion in Bitter Creek and Muddy Creek drainages (as described in Resolution #10 and #11), the Wyoming Department of Environmental Quality consider modification of its "Wyoming Water Quality Standards for Surface Waters" to include phosphorus standards in Flaming Gorge Reservoir and in its drainage basin.

Technical Basis: WHEREAS, existing and future phosphorus levels are described in the "Clean Water Report for Southwestern Wyoming", dated August 1978, to cause undesirable growths of algae and other noxious plants (eutrophication) in Flaming Gorge Reservoir, and

WHEREAS, continued blooms of algae are likely to cause all or parts of Flaming Gorge Reservoir to become and/or remain unfit or undesirable for primary contact recreation (swimming, waterskiing) or for the propagation of game and other fish species, and

WHEREAS, the national goal stated in PL 92-500 is to preserve such uses, and

WHEREAS, in Option 11, Chapter 9 of said Report phosphorus standards were found to be necessary to formulate plans and control phosphorus discharges, and

WHEREAS, Wyoming Department of Environmental Quality is responsible under WS 35-926 for setting water quality standards.

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through 9-276.33 and its bylaws that the Wyoming Department of Environmental Quality consider the following for water quality standards:

1. All streams tributary to Flaming Gorge Reservoir and the two arms of Flaming Gorge Reservoir shall not have a phosphorus concentration exceeding 0.080 mg/l as phosphorus on a monthly average basis.

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2. The main body of Flaming Gorge Reservoir shall not have a phosphorus concentration exceeding 0.030 mg/l as phosphorus in any sample taken in the surface waters.

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Department of Environmental Quality undertake the necessary monitoring program to measure whether the standards are being met. In the case where the Department of Environmental Quality finds the standards not being consistently met it shall so report to the Lincoln-Uinta Association of Governments and the Sweetwater County government for further consideration and action. In making such a determination the Department of Environmental Quality shall, to the best of its ability, identify the reasons it believes for the standard not being met.

The funding for carrying out all activities in this matter by the Department of Environmental Quality shall be from its regular channels.

It is the intent of this resolution to require phosphorus standards only if erosion control in the Bitter Creek and Muddy Creek drainages is found to be feasible and effective in reducing phosphorus loadings to Flaming Gorge Reservoir, and if the entire phosphorus control program is determined to be cost-effective by the Southwestern Wyoming Water Quality Planning Association or its successors.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gustafson
Attest

Resolution #7

Title: Benefits of phosphorus control in Flaming Gorge Reservoir

Purpose: This resolution provides for updating information on economic benefits to Wyoming associated with recreation at Flaming Gorge Reservoir.

Technical Basis: WHEREAS, the "Clean Water Report for Southwestern Wyoming", dated August 1978, describes in Chapter 3 that excessive algae blooms are occurring in portions of Flaming Gorge Reservoir, and

WHEREAS, said Report in Chapter 6 describes likely continuation of said algae blooms, and

WHEREAS, said Report in Chapter 4 describes the economic losses possible through loss of recreation potential at said reservoir, and

WHEREAS, such potential losses form an important part of the basis for controlling the water quality, and

WHEREAS, the study to estimate such benefits was done in 1967,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that undertake such studies necessary to the Lincoln-Uinta Association of Governments (LUAOG) and/or the Sweetwater County Planning Commission update and refine the estimates of economic benefits in Wyoming due to recreation at Flaming Gorge Reservoir. These studies shall be funded under Section 208 of PL 92-500 or from such other source as may be available.

BE IT FURTHER RESOLVED by said Association under the authority cited above that LUAOG and/or the Sweetwater County Planning Commission will request help in such studies from the Wyoming Recreation Commission, the United States Forest Service, the United States Bureau of Outdoor Recreation, the Wyoming Game and Fish Department, the Utah Division of Wildlife Resources, and such others as may be of benefit.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gentzler
Attest

Resolution #8

Title: Schedule for phosphorus control.

Purpose: This resolution sets forth the schedule for various actions in Southwestern Wyoming designed to reduce phosphorus instream loads so as to control eutrophication in Flaming Gorge Reservoir.

Technical Basis:

WHEREAS, it states in Section 101 (a) (2) of PL 92-500 that "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983," and

WHEREAS, it states in Section 101 (a) (5) that "it is the national policy that areawide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each state," and

WHEREAS, the Southwestern Wyoming Water Quality Planning Association is charged under Section 208 of PL 92-500 with developing such areawide planning processes, and

WHEREAS, the "Clean Water Report for Southwestern Wyoming," dated August 1978, finds that the waters of Flaming Gorge Reservoir may not be suitable for the purposes stated in Section 101 (a) (2) of PL 92-500 and that such condition is likely to continue in the future, and

WHEREAS, said Report finds in Chapter 3 that phosphorus is the limiting factor for such water quality impairment, and

WHEREAS, said Report finds in Chapter 5 that the major source of phosphorus in the Green River Basin is natural or geologic erosion, and

WHEREAS, control of such erosion to the necessary levels may not be technologically feasible, and

WHEREAS, there is high likelihood that the costs of correcting such erosion as well as abating other sources of phosphorus may be excessively high so as to create a burden on residents of Southwestern Wyoming, and

WHEREAS, some actions that may reduce phosphorus loads through erosion may have significant social and environmental impacts by changing historic grazing patterns and by interfering with historic wildlife migration routes,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through 9-276.33 and its bylaws that:

1. There is significant concern that the goal of Section 101(a)(2) may be unattainable because of reasons given above.

2. Additional studies are needed on the technical, economic, social, and environmental feasibility of controlling natural as well as man-induced erosion in the Green River Basin in Wyoming. These studies are planned to take place and are the subject of Resolution #10 and Resolution #11 by said Association.

3. A decision on attainability of the goal cannot be reasonably made until the studies called for in said resolutions are completed. This will likely occur in 1982-4.

4. Carrying out projects covered in said resolutions should be postponed until the decision on attainability of the goal is made.

BE IT FURTHER RESOLVED by said Association under the authority cited above that insofar as eutrophication in Flaming Gorge Reservoir is concerned the present condition satisfies Section 101(a)(2) of PL 92-500 until it can be shown that a higher quality is attainable. This condition notwithstanding, it shall be the goal of this Association or its successors to find ways to improve water quality conditions in Flaming Gorge Reservoir through the continuing planning process under Section 208(b) of PL 92-500.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978

Southwestern Wyoming Water
Quality Planning Association

By Eugene B. Morton
Chairman

Richard A. Gentzler
Attest

Resolution #9

Reproduced from best available copy.

Title: In-lake management for Flaming Gorge Reservoir.

Purpose: This resolution recommends the establishment of a program to study and to manage eutrophication in Flaming Gorge Reservoir by in-lake means, and designates agencies to carry out the work.

Technical Basis: WHEREAS, existing and future phosphorus levels are described in the "Clean Water Report for Southwestern Wyoming", dated August 1978, to cause undesirable growths of algae and other noxious plants (eutrophication) in Flaming Gorge Reservoir, and

WHEREAS, continued blooms of algae are likely to cause all or parts of Flaming Gorge Reservoir to become and/or remain unfit or undesirable for primary contact recreation (swimming, water-skiing) or for the propagation of game and other fish species, and

WHEREAS, said Report describes that, at least on a short term basis, control of phosphorus in tributary streams is not likely to adequately control algae blooms in said reservoir,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276 through WS 9-276.33 and its bylaws that the United States Environmental Protection Agency, United States Forest Service, United States Bureau of Reclamation, the United States Geological Survey and the United States Bureau of Fisheries and Wildlife jointly consider carrying out a program in coordination with the Wyoming Game and Fish Department and the Wyoming Department of Environmental Quality to study the feasibility of in-lake management in said reservoir and that:

1. By 1 September 1979 said agencies shall select a lead agency who shall be responsible for the work. The Southwestern Wyoming Water Quality Planning Association or its successors shall be notified in writing of who that agency shall be and what person shall be in responsible charge.

2. By 1 October 1979 said lead agency shall file with the Association or its successors a work plan for the year ending 30 September 1980.

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3. Said lead agency shall carry out, to the maximum extent possible, initial studies and demonstration projects relative to in-lake reduction of phosphorus and/or algae.

4. Said lead agency shall involve appropriate state and local agencies in Wyoming and Utah in the work planning and study process.

5. Said lead agency shall secure funding under Section 314 of PL 92-500 or some other source to carry out the work required.

6. Said lead agency shall report to the Southwestern Wyoming Water Quality Planning Association or its successors at least annually, at a time and place mutually agreed upon, on the results of such work.

BE IT FURTHER RESOLVED by said Association under the authority cited above that the in-lake management program, in such manner as the lead agency shall determine is feasible, shall continue until the Southwestern Wyoming Water Quality Planning Association or its successors shall resolve to end it.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Manto
Chairman

Richard A. Gentzsch
Attest

Resolution #10

Title: Reduction of phosphorus loadings from the Muddy Creek drainage by erosion control.

Purpose: This resolution recommends the Bureau of Land Management and unspecified others carry out studies to determine the feasibility of reducing instream phosphorus loads in the Muddy Creek drainage through erosion control so as to reduce eutrophication in Flaming Gorge Reservoir.

Technical Basis: WHEREAS, existing and future phosphorus levels are described in the "Clean Water Report for Southwestern Wyoming", dated August 1978, to cause undesirable growth of algae and other noxious plants (eutrophication) in Flaming Gorge Reservoir, and

WHEREAS, continued blooms of algae are likely to cause all or parts of Flaming Gorge Reservoir to become and/or remain unfit or undesirable for primary contact recreation (swimming, water-skiing) or for the propagation of game and other fish species, and

WHEREAS, said Report describes that reducing phosphorus levels will reduce the amount of algae produced, and

WHEREAS said Report describes that the majority of phosphorus enters the tributaries to Flaming Gorge Reservoir by erosion, and

WHEREAS, the Bureau of Land Management is prepared to soon undertake an environmental statement study pertaining to range conditions in the Muddy Creek drainage in Lincoln and Uinta County, and

WHEREAS, much of the land described in said Report to produce high erosional loads of phosphorus is managed for the people of the United States by the Bureau of Land Management,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association in keeping with Executive Order Number 11752 of the President of the United States and as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that the Bureau of Land Management include in said study consideration of managing erosion through range management, structural control, or other methods so as to reduce instream phosphorus loads, and

BE IT THEREFORE RESOLVED by said Association in keeping with Executive Order Number 11752 of the President of the United States that said studies contain the costs of such control measures and their estimated effectiveness in reducing not only sediment loadings to the streams but also phosphorus loadings.

BE IT FURTHER RESOLVED by said Association under the authority cited above that the United States Environmental Protection Agency make available to the Bureau of Land Management additional funding as may be available for the study of erosion control, range management, eutrophication control or other germane subjects so that the Bureau of Land Management can best carry out its work, and

BE IT FURTHER RESOLVED by said Association under the authority cited above that the State of Wyoming, through its University, its Department of Agriculture, its Conservation Commission and/or its Department of Environmental Quality support the Bureau of Land Management's studies in any specific way possible and to carry out, as may be within its jurisdiction and means, such additional studies that the Bureau of Land Management or others may deem to be necessary to the whole subject but outside the Bureau of Land Managment's work plan scope, and

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Bureau of Land Management organize and deliver a report to the Lincoln-Uinta Association of Governments and the Sweetwater County government during the period October-December 1978, and annually thereafter, on progress made on such studies and what recommendations may be forthcoming. Said reports shall be in writing and shall be given orally to said governments, if it so directs, at a time and place it shall set. Those other agencies involved in said studies shall include their reports with those of the Bureau of Land Management.

Nothing in this resolution shall prevent any agency or individual not named herein from carrying out studies on the subject of this resolution. Any agency carrying out work under this resolution shall be funded through its own regular channels.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 19 78

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Morton
Chairman

Richard A. Gentzler
Attest

Resolution #11

Title: Structural erosion controls in Bitter Creek Basin.

Purpose: This resolution calls on the major landowners to determine the feasibility of erecting structures in Bitter Creek Basin to prevent or control erosion and thereby reduce instream phosphorus loads and eutrophication in Flaming Gorge Reservoir.

Technical Basis: WHEREAS, existing and future phosphorus levels are described in the "Clean Water Report for Southwestern Wyoming", dated August 1978, to cause undesirable growths of algae and other noxious plants (eutrophication) in Flaming Gorge Reservoir, and

WHEREAS, continued blooms of algae are likely to cause all or parts of Flaming Gorge Reservoir to become and/or remain unfit or undesirable for primary contact recreation (swimming, water-skiing) or for the propagation of game and other fish species, and

WHEREAS, said Report describes that reducing phosphorus levels will reduce the amount of algae produced, and

WHEREAS, said Report describes that the majority of phosphorus enters the tributaries to Flaming Gorge Reservoir by erosion, and

WHEREAS, said Report describes significant phosphorus loads due to erosion in the Bitter Creek Basin, and

WHEREAS, it appears that significant development has and will occur in these areas so that more intensive actions are needed, and

WHEREAS, flooding has taken place in the City of Rock Springs.

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that major landowners jointly undertake predesign studies to evaluate and select ways to structurally control erosion and flooding in the Bitter Creek Basin. These studies shall identify specific techniques for specific areas in such detail as to allow subsequent development of plans and specifications for construction.

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Sweetwater County and the City of Rock Springs may contract with others to carry out this work. Such studies may include demonstration projects by the Young Adult Conservation Corps and others.

It is the intent of this resolution to carry out such work only if grant funds are available from state or federal government to do it and only if local matching funds, as required, may be raised.

Nothing in this resolution shall prevent another agency, industry, or group from undertaking any program to control erosion in the referenced area using its own funds or funds available to it, providing such agency files with Sweetwater County and the City of Rock Springs its intention and apprises said governments of its work program in writing prior to engaging in it.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

Richard A. Gentzler
Attest

By Eugene B Morton
Chairman

Resolution #12

Title: Erosion control for construction and mining activities.

Purpose: This resolution establishes the requirement for erosion control for certain construction and mining activities for the protection of water quality, and identifies needed regulations pertaining to same.

Technical Basis: WHEREAS, the "Clean Water Report for Southwestern Wyoming", dated August 1978, has shown that erosion causes undesirable sediments and loadings of phosphorus in the streams of Lincoln, Uinta, and Sweetwater Counties in Wyoming, and

WHEREAS, these sediments may have deleterious effects on fisheries habitats, and

WHEREAS, said phosphorus loadings have a deleterious effect on the suitability of surface waters for recreation and the propagation of fish, and

WHEREAS, PL 92-500 requires that surface waters of the nation be suitable for said uses.

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that:

1. The Counties of Lincoln, Uinta and Sweetwater consider as part of their subdivision regulations and building codes requirements pertaining to erosion control during all construction activities thereunder.

2. The incorporated places in said counties shall do the same as in 1 above for their jurisdiction.

3. The Wyoming State Highway Department and the Wyoming Department of Environmental Quality continue in the development of a management practice process for highway construction; and this process be adopted by all management agencies that control highway, street or road construction.

4. The Wyoming Department of Environmental Quality continues to regulate all mining and oil and gas activities which impact the water quality of surface or ground waters.

5. The Bureau of Land Management continue to regulate all mining, construction and oil and gas activities on Federal lands which may impact the water quality of surface or ground waters.

6. The Association recommends that the regulations and processes referred to in 1 through 5 above be adopted by the respective bodies as soon as practical.

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Lincoln-Uinta Association of Governments and the Sweetwater County government receive copies of any regulations implemented by any of the agencies called out above.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gentzler
Attest

Resolution #13

Title: Phosphorus control study for Palisades Reservoir

Purpose: This resolution recommends a basin-based study be made of eutrophication in Palisades Reservoir and designates an agency to carry out such a study.

Technical Basis:

WHEREAS, Palisades Reservoir was described as eutrophic in the draft "Clean Water Report for Southwestern Wyoming", dated 15 September 1977, and

WHEREAS, eutrophic conditions are not compatible with fisheries and primary recreational uses of the reservoir, and

WHEREAS, the national goal stated in PL 92-500 is to preserve such uses, and

WHEREAS, said Report states that a major cause of the eutrophic conditions is high phosphorus loadings to said reservoir, and

WHEREAS, said Report describes that most of the phosphorus loadings to said reservoir were generated outside the Southwestern Wyoming study area, and

WHEREAS, the United States Environmental Protection Agency has authority in interstate water quality matters,

Action:

BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority at WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that the Environmental Protection Agency develop an interstate agency or task force under Section 103 of PL 92-500 to study all aspects of eutrophication in Palisades Reservoir so as to find what sources need to be corrected. This study and the agency or task force conducting it shall be funded through Section 208 of PL 92-500, or such other source as may be appropriate.

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Lincoln-Uinta Association of Governments (LUAOG) work with such agency or task force in any capacity of which it may be capable.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities

called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gentzler
Attest

Resolution #14

Title: Evaluation of use impairment of reservoir projects.

Purpose: This resolution sets forth concerns of the Southwestern Wyoming Water Quality Planning Association about multi-use projects being built such that water quality will not remain suitable for the uses and requests legislative establishment of a review process.

Technical Basis:

WHEREAS, the "Clean Water Report for Southwestern Wyoming," dated Augsut 1978, describes water quality conditions in Flaming Gorge Reservoir deleterious to recreational uses due to phosphorus and algae levels, when providing said use was a function of the project described, and where no provisions were made for mitigating such water quality conditions, and

WHEREAS, belated correction of such water quality conditions in surface waters can be more costly than earlier mitigation, and

WHEREAS, the cost of such belated correction often does not fall on those who caused such a project to come into being, and

WHEREAS, the Wyoming State Engineer has responsibility under Section 5 of Article 8 of the State Constitution and WS 41-203 for review and approval of water resource development projects in Wyoming, and

WHEREAS, the Department of Environmental Quality has responsibility under WS 35-502.1 through WS 39-502.56 for water quality management in Wyoming,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that the Wyoming Legislature consider enacting necessary legislation to:

1. Designate either the State Engineer or the Department of Environmental Quality to have final review responsibility for continued water quality necessary to uses proposed for reservoir projects in Wyoming regardless by whom built, and

2. Establish a procedure for the review and evaluation of such orojects whether proposed by Federal, state, local or other government or by private party, and

3. Authorize and obligate the necessary funds and/or manpower for said state agency to perform this role.

Said procedure should include at least the following considerations:

1. Such projects are likely to continually provide unimpaired uses set forth in the project plans and in compliance with then existing state water quality standards.

2. Mitigating measures have been provided if such continued impaired uses are not likely.

3. Sufficient water quality monitoring is proposed to prove in the future that desired and required uses are not being impaired.

4. The costs of maintaining such water quality are to be paid for in some fair equitable manner.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

Richard S. Gentzler
Attest

By Eugene B Martin
Chairman

Resolution #15

Title: Individual waste disposal management.

Purpose: This resolution designates agencies to carry out state laws pertaining to individual waste management and recommends certain operating procedures for such work.

Technical Basis: WHEREAS, the protection of public health and safety requires control of the disposal of liquid wastes from residences and businesses, and

WHEREAS, the State of Wyoming in WS 35-502.18 and WS 35-502.19 (the Wyoming Environmental Quality Act of 1973) has established rules pertaining to the disposal of such wastes, and

WHEREAS, the "Clean Water Report for Southwestern Wyoming," dated August 1978, has identified the need for improved management programs for such wastes,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through 9-276.33 and its bylaws that the Commissioners of the Counties of Sweetwater, Lincoln, and Uinta as separate bodies, consider adopting necessary resolutions or ordinances pertaining to individual waste disposal management.

Nothing in this resolution shall prevent said Counties from employing or contracting with whomever they choose to carry out this program providing that such person or persons be professionally qualified to carry out such work.

Nothing in this resolution shall prevent said Counties from funding said program in any way that they may see fit.

Nothing in this resolution shall prevent said Counties from changing said program in the future as may be needed in response to changes in state law or changes deemed necessary as a result of experience in the program.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gutzeit
Attest

Resolution #16

Title: Adequacy of current secondary treatment requirements to meet water quality goals.

Purpose: This resolution establishes that secondary treatment levels are sufficient for current municipal wastewater treatment design and construction programs.

Technical Basis: WHEREAS, in Section 208 of PL 92-500 an areawide waste treatment management agency must determine what treatment levels are necessary to meet instream water quality needs, and

WHEREAS, in the "Clean Water Report for Southwestern Wyoming," dated August 1978, and in associated 201 Facility Plans it is described that short-range water quality goals can be met with publicly-owned treatment works producing a secondary quality effluent in Lincoln, Uinta, and Sweetwater Counties, Wyoming,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through 9-276.33 and its bylaws that, until further determination, no publicly-owned treatment works shall need to produce an effluent quality better than secondary and no industrial discharger shall need to provide more than Best Available Treatment. The Wyoming Department of Environmental Quality is hereby notified for purposes of preparing discharge permits in Lincoln, Uinta, and Sweetwater Counties of Wyoming.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gentzsch
Attest

Resolution #17

Title: Designation of wastewater treatment management agencies.

Purpose: This resolution designates certain agencies as wastewater treatment management agencies under the provisions of Section 208 of PL 92-500.

Technical Basis: WHEREAS, Section 208 (b) (2) (D) of PL 92-500 requires designation of wastewater treatment management agencies "necessary to construct, operate, and maintain all facilities required by the plan and otherwise to carry out the plan",

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quali Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that the following shall be proposed wastewater treatment management agencies in the counties of Sweetwater, Lincoln and Uinta in Wyoming, for the sewage service areas under their jurisdiction:

- Rock Springs
- Wamsutter
- South Superior
- Granger
- Green River
- Afton
- Evanston
- Cokeville
- Diamondville
- Jamestown-Rio Vista Water & Sewer District
- White Mountain Water & Sewer District
- Inner City Water & Sewer District
- Lyman
- Mt. View
- Ft. Bridger Water & Sewer District
- Alpine Water & Sewer District
- LaBarge
- Kemmerer
- Thayne
- South Lincoln County Water & Sewer District
- Rock Springs Sweetwater County Airport Board
- Reliance Water & Sewer District

These agencies shall be responsible for constructing, operating, and maintaining sewage treatment facilities under their jurisdiction and shall be eligible to apply for and receive state and/or federal grant funds to carry out such work.

The agencies so named shall continue in such role unless changed by the Lincoln-Uinta Association of Governments or the Sweetwater County Priorities Board.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard W. Jentzsch
Attest

Resolution #18

Title: A use-based approach to water quality.

Purpose: This resolution recommends that the Wyoming Department of Environmental Quality adopt the nine water use classifications and the water use designations locally developed in Southwestern Wyoming for streams in Lincoln, Uinta, and Sweetwater Counties in lieu of the State's designations in order to protect water quality in the area for locally desired uses.

Technical Basis: WHEREAS, the existing Wyoming Stream Classification System is based on the protection of a single use which is fisheries, and

WHEREAS, the "Clean Water Report for Southwestern Wyoming", dated August 1978, has identified nine major existing or desired uses of water by residents in the area, and

WHEREAS, said Report describes that each of the nine uses requires a different water quality and therefore a different set of water quality standards to protect that use, and

WHEREAS, these uses have been assigned to each of 52 stream reaches in the area, based on the best information available on existing and desired uses, and

WHEREAS, said list of use designations by stream reach has been reviewed by state and local agencies and local citizens, and has been revised to agree with comments made by said agencies and citizens, and therefore reflects the best representation of existing and desired uses of surface water in the study area.

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that the Wyoming Department of Environmental Quality under authority of WS 35-502.19 and WS 35-487.19, revise its existing use classification system for the study area to conform with the use classification system presented in Table 2-1 of said report, attached as Exhibit 18-A hereto, and

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Wyoming Department of Environmental Quality consider the use designations presented in Table 2-2 of said Report, attached hereto as Exhibit 18-B, for water year 1980, and

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Lincoln-Uinta Association of Governments (LUAOG) and the Sweetwater County Planning Commission obtain the necessary input from state and local agencies and local citizens to review and revise said list of use designations on an annual basis, and

BE IT FURTHER RESOLVED by said Association under the authority cited above that LUAOG and the Sweetwater County Planning Commission submit a written report to the Wyoming Department of Environmental Quality in July of every third year with the list of current use designations for the following water year, beginning in July, 1981, for inclusion into the Wyoming Water Quality Standards for Surface Waters.

The activities of the Department of Environmental Quality shall be funded through its own regular channels.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gentzler
Attest

Table 2-1

WATER USE DEFINITIONS

Exhibit 18-A
Ref: CH2M HILL. September 1977. *Technical Report, Clean Water Report for Southwestern Wyoming*, pp 2-2.

Water Use	Definition	Basis for Establishing Water Quality Criteria
Secondary Contact Recreation	Water with which the human body may come in contact, but normally not to the point of complete submergence. Such activities include wading, fishing, boating, and hiking.	The water must be aesthetically acceptable for the recreation activities. Ingestion of small amounts of water and whole body submergence are normally not expected. Propagation of fish is not included.
Primary Contact Recreation	Water in which the human body may be completely submerged with prolonged and intimate contact. Such activities include swimming, water skiing, and canoeing.	The water must be aesthetically acceptable for the recreation activities and should not cause skin or eye irritation. Ingestion of small amounts of water should not cause illness.
Stream Aesthetics	Streams which have scenic value.	Surface water must be virtually free from substances which impair the visual character of the water body. The major concern is directed at substances and conditions which produce undesirable aquatic growth.
Reservoir and Lake Aesthetics	Reservoirs and lakes which have scenic value.	Surface water must be virtually free from substances which impair the visual character of the water body. The major concern is directed at substances and conditions which produce undesirable aquatic growth.
Industrial Water Supply	Raw water diverted from streams or lakes used by various industries for process purposes or for removal of heat after water treatment by the individual industries.	The major industrial uses of water are assumed to be for coal gasification, petroleum refining, trona processing, and power generation. Criteria are based on the use of raw water diverted to a storage basin and used for process water or recirculating cooling systems.
Agricultural Irrigation	Water used for the irrigation of crops.	Irrigation water quality is based on the requirements of alfalfa. Waters are assumed to be used continuously during the growing season on all soil. Soil conditions which would further limit water quality are not specified.
Wildlife and Livestock Watering	Water used by wildlife (excluding fish) and livestock for consumption.	Water quality must ensure short term and long term survival of wildlife and livestock, including waterfowl, but excluding fish. Substances which will taint meat or milk are also limited.
Public Water Supply	Raw water used for drinking and other domestic or municipal purposes AFTER conventional treatment.	Surface water must be potable after conventional water treatment which is assumed to be (1) coagulation, (2) sedimentation, (3) rapid sand filtration, and (4) chlorine disinfection. Substances which interfere with treatment processes should be limited. Toxic substances (both acute and chronic) not removed by conventional water treatment must meet requirements for potable standards.
Fishery	Water used to support and propagate a cold or warm water fishery.	Water quality must support a rainbow trout fishery. Substances which taint fish are also limited.

Table 2-2

STREAM REACHES AND WATER USES[1]

BASIN	RIVER	REACH	Reach Number	REACH BOUNDARIES	Secondary Contact Recreation	Primary Contact Recreation	Stream Aesthetics	Reservoir and Lake Aesthetics	Industrial Water Supply	Agricultural Irrigation	Wildlife and Livestock Watering	Public Water Supply	Fishery[2]
Snake River	Snake River	Snake River	1	Lincoln-Teton County Line to Palisades Reservoir		x	x				x		x
	Greys River	Greys River	2	Headwaters to Snake River	x		x				x		x
	Salt River	Upper	3	Headwaters to Thayne	x		x			x	x		x
		Lower	4	Thayne to Backwaters of Palisades Reservoir	x		x			x	x		x
		Palisades Reservoir	5	Backwaters of Palisades Reservoir to Idaho State Line		x		x			x		x
Bear River	Bear River	Above Evanston	6	Utah State Line to Evanston	x		x		x	x	x	x	x
		Below Evanston	7	Evanston to Backwaters of Woodruff Narrows Reservoir	x		x			x	x		x
		Woodruff Narrows Reservoir	8	Backwaters of Woodruff Narrows Reservoir to Utah State Line		x		x		x	x		x
		Cokeville Reach	9	Utah State Line to Smiths Fork	x		x		x	x	x		x
		Border Reach	10	Smiths Fork to Idaho State Line	x		x		x	x	x		x
	Twin Creek	Twin Creek	11	Headwaters to Bear River	x		x		x		x		x[3]
	Smiths Fork	Smiths Fork	12	Headwaters to Bear River	x		x			x	x		x
Green River	Green River	Upper	13	Sublette-Sweetwater County Line to Backwaters of Fontenelle Reservoir		x	x			x	x		x
		Fontenelle Reservoir	14	Backwaters to Dam, Fontenelle Reservoir		x		x	x	x	x	x	x
		Slate Creek Reach	15	Fontenelle Reservoir Dam to Big Sandy River		x	x		x	x	x	x	x
		Big Island Reach	16	Big Sandy River to Alkali Creek		x	x		x	x	x		x
		Green River Reach	17	Alkali Creek to Bitter Creek		x	x		x	x	x	x	x
		Lower	18	Bitter Creek to Flaming Gorge Reservoir Backwaters		x	x		x	x	x		x
		Green River Arm, Flaming Gorge Reservoir	19	Flaming Gorge Reservoir Backwaters to Confluence with Blacks Fork Arm		x		x	x		x	x	x
		Flaming Gorge Reservoir	20	Confluence of Green River and Blacks Fork Arm to Utah State Line		x		x			x	x	x
	La Barge Creek	La Barge Creek	21	Headwaters to Green River	x		x			x	x		x
	Fontenelle Creek	Fontenelle Creek	22	Headwaters to Fontenelle Reservoir	x		x			x	x		x
	Slate Creek	Slate Creek	23	Headwaters to Green River	x		x			x	x		x
	Big Sandy River	Big Sandy Reservoir	24	Backwaters to Dam, Big Sandy Reservoir		x		x			x		x
		Upper	25	Big Sandy Reservoir Dam to Pacific Creek near Farson	x		x			x	x		x
		Lower	26	Pacific Creek near Farson to Green River	x		x				x		x
	Pacific Creek	Pacific Creek	27	Headwaters to Big Sandy River	x		x			x	x		x
	Jack Morrow Creek	Jack Morrow Creek	28	Headwaters to Pacific Creek	x		x				x		
	Bitter Creek	Upper	29	Headwaters to Salt Wells Creek	x		x			x	x		x[3]
		Middle	30	Salt Wells Creek to Rock Springs	x		x				x		

For footnotes, see second page of table.

Table 2-2 (Continued)

STREAM REACHES AND WATER USES[1]

BASIN	RIVER	REACH	Reach Number	REACH BOUNDARIES	Secondary Contact Recreation	Primary Contact Recreation	Stream Aesthetics	Reservoir and Lake Aesthetics	Industrial Water Supply	Agricultural Irrigation	Wildlife and Livestock Watering	Public Water Supply	Fishery[2]
Green River (Continued)													
		Lower	31	Rock Springs to Green River	x		x				x		
	Salt Wells Creek	Salt Wells Creek	32	Headwaters to Bitter Creek	x		x				x		
	Killpecker Creek	Killpecker Creek	33	Headwaters to Bitter Creek	x		x				x		
	Blacks Fork	Upper	34	Utah State Line to County Hwy. near Robertson	x		x		x	x	x		x
		Lyman Reach	35	County Highway near Robertson to Smiths Fork	x		x			x	x	x	x
		Church Butte Reach	36	Smiths Fork to Hams Fork near Granger	x		x			x	x		x[4]
		Little America Reach	37	Hams Fork near Granger to Massacre Hill	x		x			x	x		x[4]
		Blacks Fork Arm, Flaming Gorge Reservoir	38	Massacre Hill to Confluence with Green River Arm		x		x	x	x	x		x
	Smiths Fork	Upper	39	Utah State Line to County Hwy. near Robertson	x		x			x	x	x	x
		Lower	40	County Highway near Robertson to Blacks Fork	x		x		x	x	x		x
	Little Dry Creek	Little Dry Creek	41	Utah State Line to Smiths Fork	x		x			x	x		x
	Muddy Creek	Upper	42	Utah State Line to Piedmont	x		x			x	x		x
		Lower	43	Piedmont to Blacks Fork	x		x				x		x
	Little Muddy Creek	Little Muddy Creek	44	Headwaters to Muddy Creek	x		x				x		x[3]
	Hams Fork	Upper	45	Headwaters to Viva Naughton Reservoir Backwaters	x		x			x	x		x
		Viva Naughton Reservoir	46	Backwaters to Dam, Viva Naughton Reservoir	x			x			x		x
		Middle	47	Viva Naughton Reservoir Dam to Kemmerer	x		x		x	x	x	x	x
		Lower	48	Kemmerer to Blacks Fork	x		x		x	x	x	x	x
	Henrys Fork	Henrys Fork	49	Utah State Line to Flaming Gorge Reservoir	x		x			x	x		x
Green River Below Flaming Gorge	Red Creek	Red Creek	50	Headwaters to Utah State Line	x		x				x		x
	Vermilion Creek	Vermilion Creek	51	Headwaters to Colorado State Line	x		x		x	x	x		x
Great Divide Basin	Lost Soldier Creek	Lost Soldier Creek	52	Headwaters to Sweetwater-Carbon County Line	x		x				x		

(1) Water uses are defined on Table 2-1.
(2) All are cold water, game fisheries unless otherwise noted.
(3) Cold water, nongame fishery.
(4) Warm water, nongame fishery.

Exhibit 18-8
Ref: CH2M HILL. September 1977. *Technical Report, Clean Water Report for Southwestern Wyoming*, pp 2-3 and 2-4.

Resolution #19

Title: Identification of certain streams and stream segments in which the 1983 fishable/swimmable goal appears not attainable.

Purpose: This resolution requests the Wyoming Department of Environmental Quality to exempt certain streams and stream segments from meeting water quality standards pertaining to the fishable/swimmable goal.

Technical Basis:

WHEREAS, it states in Section 101 (a) (2) of PL 92-500 that "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water to be achieved by July 1, 1983"; and

WHEREAS, the "Clean Water Report for Southwestern Wyoming", dated August 1978, presents a list of existing and desired water uses which do not provide for swimming (primary contact recreation) or fishing in some stream or stream segments, and

WHEREAS, the following streams and stream segments are designated Class III (waters determined as not having the hydrologic or natural water quality potential to support fish) by the Wyoming Department of Environmental Quality:

- Jack Morrow Creek, tributary to Big Sandy River
- Bitter Creek from the mouth to the confluence with Salt Wells Creek
- Salt Wells Creek and Killpecker Creek, which are tributaries to Bitter Creek
- Lost Soldier Creek, and

WHEREAS, said Report describes that fishing is not an existing or desired use of the reviewing agencies and individuals in any of the streams and stream segments listed above, and

WHEREAS, said Report describes that swimming is not an attainable use in the following streams and stream reaches because of natural conditions:

- Greys River and Salt River, which are tributaries to the Snake River

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- All reaches of the Bear River within Wyoming and upstream from Smiths Fork except for Woodruff Narrows Reservoir
- LaBarge Creek, Fontenelle Creek, Slate Creek, Pacific Creek, and Jack Morrow Creek, which are tributaries of the Green River system.
- Bitter Creek, Salt Wells Creek, and Killpecker Creek
- Blacks Fork upstream from the County highway near Robertson
- Smiths Fork, Little Dry Creek, Muddy Creek, Little Muddy Creek, which are tributaries of the Blacks Fork system
- Hams Fork upstream from Viva Naughton Reservoir
- Henrys Fork
- Red Creek
- Vermilion Creek
- Lost Soldier Creek, and

WHEREAS, said report describes that swimming is not an existing or desired use of the reviewing agencies and individuals in the following streams and stream reaches:

- Bear River from the confluence with Smiths Fork to the Idaho border
- Big Sandy River except for Big Sandy Reservoir
- Blacks Fork from the County highway near Robertson to Massacre Hill
- Hams Fork downstream from Viva Naughton Reservoir

WHEREAS, control of fecal coliform in these streams to levels dictated by the swimmable goal would probably require strict controls on grazing by domesticated and wild animals, and therefore would result in substantial and widespread adverse environmental, economic, and social impacts.

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as areawide water quality planning agency for Uinta, Lincoln, Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-28.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that the Wyoming Department of Environmental Quality under the authority of WS 35-487.19, WS 35-502.19

and Section 303 of PL. 92-500 exempt the following streams and stream segments from said fishable goal and all water quality standards associated with said goal:

- Jack Morrow Creek, tributary to Big Sandy River
- Bitter Creek from the mouth to the confluence with Salt Wells Creek
- Salt Wells Creek and Killpecker Creek, which are tributaries to Bitter Creek
- Lost Soldier Creek

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Wyoming Department of Environmental Quality under the authority above exempt the following streams and stream segments from said swimmable goal and all water quality standards associated with said goal:

- Greys River and Salt River, which are tributaries to the Snake River
- All sections of the Bear River within Wyoming except for Woodruff Narrows Reservoir
- LaBarge Creek, Fontenelle Creek, Slate Creek, Big Sandy River except for Big Sandy Reservoir, Pacific Creek, and Jack Morrow Creek, which are tributaries of the Green River system
- Bitter Creek, Salt Wells Creek, and Killpecker Creek
- Blacks Fork from Massacre Hill to the headwaters
- Smiths Fork, Little Dry Creek, Muddy Creek, Little Muddy Creek, and Hams Fork (except Viva Naughton Reservoir), which are tributaries of the Blacks Fork system
- Henrys Fork
- Red Creek
- Vermilion Creek
- Lost Soldier Creek

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Lincoln-Uinta Association of Governments and the Sweetwater County Planning Commission review this list of exemptions from the fishable/swimmable goal annually and provide information on additions or deletions to the Wyoming Department

of Environmental Quality as a part of the 305(B) planning process.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

Richard A. Gentzler
Attest

By Eugene B Martin
Chairman

Resolution #20

Reproduced from best available copy.

Title: Instream suspended solids standards.

Purpose: This resolution directs Wyoming Department of Environmental Quality and Wyoming Game and Fish Department to arrive at a mutually agreed upon instream standard for suspended solids or turbidity.

Technical Basis: WHEREAS, in the "Clean Water Report for Southwestern Wyoming", dated August 1978, it was described in Chapter 2 that water quality problems due to excessive concentrations of suspended sediment could not be identified because monitored data and the Wyoming Standard were in different units of measurement, and

WHEREAS, excessive levels of suspended solids or turbidity can be harmful to fisheries, and

WHEREAS, Wyoming Game and Fish Department is responsible for the welfare of the state's fisheries, and

WHEREAS, Wyoming Department of Environmental Quality is responsible under WS 35-487.19, WS 35-502.19 and Section 303 of PL 92-500 for establishing instream water quality standards.

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that the Wyoming Game and Fish Department and Wyoming Department of Environmental Quality work together to arrive at mutually agreed upon criteria for measuring the impact of suspended solids and/or turbidity, and

BE IT THEREFORE RESOLVED by said Association under the authority cited above that the Department of Environmental Quality include such criteria as its instream water quality standard for suspended solids and/or turbidity under the authority of WS 35-487.19, WS 35-502.19, and Section 303 of PL 92-500.

This action shall be funded by the agencies mentioned from their regular budgets or in such other manner as they see fit.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Morton
Chairman

Richard A. Jentzsch
Attest

Resolution #21

Title: Study of impact of high instream metals levels.

Purpose: This resolution directs the Wyoming Game and Fish Department to determine if apparently high levels of certain heavy metals in certain streams are toxic to fisheries and other aquatic biota for the purpose of recommending locally specific water quality standards.

Technical Basis: WHEREAS, investigations reported in Chapter 3 of the "Clean Water Report for Southwestern Wyoming", dated August 1978, showed that eight stream reaches identified in Exhibit 21-A hereto, had concentrations of cadmium, copper, lead, and zinc in excess of water quality criteria for fisheries, and

WHEREAS, no evidence has been found of toxicity to fisheries and/or other aquatic biota from such levels, and

WHEREAS, realistic standards should be set for the area's streams, according to Section 303 of PL 92-500, and

WHEREAS, Wyoming Game and Fish Department is the state agency responsible for the welfare of fisheries, and

WHEREAS, the Wyoming Department of Environmental Quality is the state agency responsible under WS 35-487.19 and WS 35-502.19 and Section 303 of PL 92-500 for setting water quality standards,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association an areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that Wyoming Game and Fish Department initiate the necessary studies to determine appropriate toxic levels of the heavy metals and in the stream segments shown in Exhibit 21-A attached hereto for fisheries and other aquatic biota. Wyoming Game and Fish shall report such criteria as it deems necessary for protection of species in those segments to Wyoming Department of Environmental Quality.

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Wyoming Department of Environmental Quality under authority of WS 35-926 and Section 303 of PL 92-500 include such criteria developed by Wyoming Game and Fish as given above as water quality standards for those segments and others as required.

Funding for the activities of both agencies as described above shall be from their regular budgets or such other as they see fit.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978

Southwestern Wyoming Water
Quality Planning Association

Richard A. Gotsch
Attest

By Eugene B Martin
Chairman

Table 3-6

SUMMARY OF USE IMPAIRMENTS FOR SURFACE WATER

Reach[1]	Secondary Contact Recreation	Primary Contact Recreation	Stream Aesthetics	Reservoir and Lake Aesthetics	Industrial Water Supply	Agricultural Irrigation	Livestock and Wildlife Watering	Public Water Supply	Fishery[3]
1									Cd, DO, NH_3, Zn
2									
3									
4									
5				P					
6								TDS	Zn
7									Zn
8				P					Zn
9									
10		FC[2]							
11									Cd
12									
13		FC							Cu, NH_3
14				P					
15		FC							
16		FC			TDS				
17		FC			TDS			TDS, SO_4	Cd, Cu, Pb, Zn, TSS, NH_3
18	FC	FC			TDS				DO, TSS, NH_3
19				P	TDS				DO
20				P				SO_4	DO, Zn
21									
22									
23									
24				P					
25		FC[2]				SAR-TDS			TSS
26									TSS
27						SAR-TDS			Be, pH, TSS, NH_3
28									
29	FC					SAR-TDS	SO_4		TSS, NH_3
30	FC								
31	FC								
32	FC								
33	FC						Cl, SO_4, TDS		
34									
35		FC[2]				SAR-TDS			TSS
36		FC[2]				SAR-TDS		SO_4	
37		FC[2]				SAR-TDS			
38				P	TDS	SAR-TDS			
39									
40	FC					SAR-TDS			
41									
42									
43									TSS, NH_3
44									TSS, NH_3
45									
46				P					
47	FC	FC[2]			TDS			TDS	DO, NH_3
48								TDS, SO_4	DO, NH_3
49									
50									
51						SAR-TDS			
52									NH_3

(1) Reach designations on Table 2-2.
(2) Use impairment under the national goal only.
(3) Impairments with respect to ammonia reflect worst possible conditions.

Symbols

Ammonia	NH_3
Beryllium	Be
Cadmium	Cd
Chloride	Cl
Coliform, Fecal	FC
Copper	Cu
Lead	Pb
Oxygen, Dissolved	DO
Phosphorus, Total	P
Sodium Adsorption Ratio	SAR
Solids, Total Dissolved	TDS
Solids, Total Suspended	TSS
Sulfate	SO_4
Zinc	Zn

Exhibit 21-A
Ref: CH2M HILL. August 1978. *Technical Report; Clean Water Report for Southwestern Wyoming*, pp 3-15.

Resolution #22

Title: Source studies of fecal coliform.

Purpose: This resolution identifies certain reaches where fecal coliform levels are high and directs certain agencies to carry out studies to determine their sources so that corrective action may be taken.

Technical Basis:

WHEREAS, investigations reported in Chapter 3 of the "Clean Water Report for Southwestern Wyoming", dated August 1978, showed that stream reaches identified in Exhibit 22-A hereto, had fecal coliform levels in excess of water quality criteria for recreational use, and

WHEREAS, recreational use of surface waters, wherever attainable, is a national policy as stated in Section 101 (a) (2) of PL 92-500, and

WHEREAS, the sources of said fecal coliform could not be ascertained for said Report, and

WHEREAS, the Bureau of Land Management has started a program to identify fecal coliform sources on lands it manages, and

WHEREAS, the Wyoming Department of Environmental Quality is responsible for determining pollution and its sources under Section 305 (b) (1) of PL 92-500 and under WS 35-926

Action:

BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that the Bureau of Land Management continue said studies referenced above and shall submit an annual report to the Wyoming Department of Environmental Quality, to the State Health Department, and to the Sanitarians or other designated public health officials of Sweetwater, Lincoln, and Uinta Counties.

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Wyoming Department of Environmental Quality under the authority of WS 35.926 undertake studies to determine sources of fecal coliform in areas not covered by the Bureau of Land Management.

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BE IT FURTHER RESOLVED by said Association under the authority cited above that the Bureau of Land Management and the Wyoming Department of Environmental Quality shall emphasize in their studies those twelve stream reaches identified in Exhibit 22-A.

Activities of both agencies described above shall be funded by them through their regular sources.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978

Southwestern Wyoming Water
Quality Planning Association

By _____
Chairman

_____
Attest

Table 3-6

SUMMARY OF USE IMPAIRMENTS FOR SURFACE WATER

Reach[1]	Secondary Contact Recreation	Primary Contact Recreation	Stream Aesthetics	Reservoir and Lake Aesthetics	Industrial Water Supply	Agricultural Irrigation	Livestock and Wildlife Watering	Public Water Supply	Fishery[3]
1									
2									Cd, DO, NH_3, Zn
3									
4									
5				P					
6									
7								TDS	Zn
8				P					Zn
9									Zn
10		FC[2]							
11									
12									Cd
13		FC							
14				P					Cu, NH_3
15		FC							
16		FC			TDS				
17		FC			TDS				
18	FC	FC			TDS			TDS, SO_4	Cd, Cu, Pb, Zn, TSS, NH_3
19				P	TDS				DO, TSS, NH_3
20				P					DO
21								SO_4	DO, Zn
22									
23									
24				P					
25		FC[2]							
26						SAR-TDS			TSS
27									TSS
28						SAR-TDS			Be, pH, TSS, NH_3
29	FC								
30	FC					SAR-TDS	SO_4		TSS, NH_3
31	FC								
32	FC								
33	FC								
34							Cl, SO_4, TDS		
35		FC[2]							
36		FC[2]				SAR-TDS			
37		FC[2]				SAR-TDS		SO_4	TSS
38						SAR-TDS			
39				P	TDS	SAR-TDS			
40	FC								
41						SAR-TDS			
42									
43									
44									TSS, NH_3
45									TSS, NH_3
46				P					
47	FC	FC[2]			TDS				
48								TDS	DO, NH_3
49								TDS, SO_4	DO, NH_3
50									
51									
52						SAR-TDS			NH_3

(1) Reach designations on Table 2-2.
(2) Use impairment under the national goal only.
(3) Impairments with respect to ammonia reflect worst possible conditions.

Symbols

Ammonia	NH_3
Beryllium	Be
Cadmium	Cd
Chloride	Cl
Coliform, Fecal	FC
Copper	Cu
Lead	Pb
Oxygen, Dissolved	DO
Phosphorus, Total	P
Sodium Adsorption Ratio	SAR
Solids, Total Dissolved	TDS
Solids, Total Suspended	TSS
Sulfate	SO_4
Zinc	Zn

Exhibit 23-A
Ref: CH2M HILL. August 1978. *Technical Report, Clean Water Report for Southwestern Wyoming*, pp 3-15.

Resolution #23

Reproduced from best available copy.

Title: Water quality monitoring program for Southwestern Wyoming.

Purpose: This resolution directs the Wyoming Department of Environmental Quality and the United States Geological Survey to carry out and coordinate water quality monitoring in Southwestern Wyoming and establishes the requirement for making certain changes in existing programs.

Technical Basis: WHEREAS, the "Clean Water Report for Southwestern Wyoming", dated August 1978, in Chapter 10 describes ten recommended changes attached hereto as Exhibit 23-A to existing water quality monitoring programs, and

WHEREAS, the United States Geological Survey has performed consistent and extensive water quality monitoring in Southwestern Wyoming in the past, and

WHEREAS, the Wyoming Department of Environmental Quality is responsible for monitoring water quality in Wyoming under WS 35-487.19 and WS 35-502.19

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that the United States Geological Survey and the Wyoming Department of Environmental Quality carry out the recommendations numbered 2 through 10 in Exhibit 23-A. The funding for those actions shall be through regular budget channels for those agencies.

BE IT FURTHER RESOLVED by said Association under the authority cited above that the WRDS system at the Wyoming Water Resources Research Institute become a central storage depository for all water quality data gathered in Southwestern Wyoming.

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Wyoming Department of Environmental Quality, the United States Geological Survey, and any other agencies involved in water quality monitoring encourage the use of the laboratory facilities at Western Wyoming College.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

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Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gentzsch
Attest

Exhibit 23-A
Ref: CH2M HILL. August, 1978. *Technical Report, Clean Water Report for Southwestern Wyoming*, pp 10-26, 10-27, and 2-29.

- A fully qualified water quality testing laboratory must be maintained in the Southwestern Wyoming area. The long distances to the nearest large cities make it difficult to carry out a routine monitoring program and to obtain accurate results without a laboratory within the study area. Although DEQ cannot establish the laboratory, it can review the adequacy of any existing laboratory in the study area and recommend to the Legislature the establishment of one or more if it deems necessary.

- A flow-monitoring station should be established at the existing quality station designated Green River below Green River in order to measure contaminant loadings from Bitter Creek and the Green River area.

- The present program of monitoring phosphorus does not allow accurate prediction of loads. If a phosphorus control program is initiated, a concentrated sampling program should be started. The frequency of phosphorus monitoring, particularly in the tributaries, should be increased during high flows. Because of the large costs and benefits associated with a phosphorus control program, sampling should be done by automatic samplers to ensure more accurate results.

- Dissolved and total metals should be routinely monitored only if toxicity levels can be accurately established.

- Alkalinity and chloride are easily monitored, but levels in the study area have been adequately determined and further monitoring does not appear necessary.

- Ammonia monitoring should take place within and below population centers and should be done in conjunction with monitoring of pH and temperature.. Sampling should initially be concentrated on those reaches shown on Table 3-6 to have possibly excessive ammonia concentrations.

- Water quality criteria have not been exceeded for the following chemical constituents: arsenic, barium, color, fluoride, phenol, polychlorinated biphenyls, selenium, and turbidity. It is recommended that these constituents be monitored infrequently or not at all, because no conditions in the foreseeable future are expected to increase their levels above the criteria.

- The important salinity parameters in the study area are total dissolved solids (or conductivity), sulfate, total hardness, and sodium adsorption ratio. If a salinity control program is initiated, a salinity baseline should be established throughout the Green River Basin by monitoring the four salinity parameters on a twice- monthly basis during spring and on a bimonthly basis at other times.

- The following measurements should be made monthly in Flaming Gorge Reservoir to define the pace of eutrophication: total phosphorus, dissolved oxygen, chlorophyll a, and secchi disk transparency. At least three phosphorus and dissolved oxygen measurements should be made at different depths at each sampling location.

- Monitoring of constituents which have criteria but which have not yet been monitored (see Table 2-11) does not appear necessary at this time.

The results of the water quality monitoring should be reported through the regular channels of USGS and DEQ and be stored in the STORET and WRDS systems in order to be available for future planners.

Resolution #24

Title: Maintaining fishable waters in the Green River.

Purpose: This resolution sets forth concerns of the Southwestern Wyoming Water Quality Planning Association about the flows in the Green River, from Green River to Flaming Gorge Reservoir, for the purpose of maintaining fishable waters, and directs water users and the State of Wyoming to consider such impacts in developing future projects.

Technical Basis: WHEREAS, it states in Section 101(a)(2) of PL 92-500, that wherever attainable it is the national goal for water quality to provide for the protection and propagation of fish by July 1, 1983, and

WHEREAS, the report "The Fontenelle Green River Trout Fisheries - Considerations in its Enhancement and Perpetuation, Including Test Flow Studies of 1973," dated March, 1974, as prepared by the United States Department of the Interior, U.S. Bureau of Sport Fisheries and Wildlife, and the Wyoming Game and Fish Department, has shown that the Green River between Fontenelle and Flaming Gorge supports a unique blue ribbon trout fishery with State and national significance and that such conditions may likely not be maintained in the future if the flows are reduced from those recommended in said report, and

WHEREAS, future actions may reduce the flows below those recommended on a long term basis, and may have significant social and environmental impacts by changing spawning patterns, interfering with historic migration routes, and otherwise jeopardizing this Green River fishery and,

WHEREAS, the Southwestern Water Quality Planning Association is in agreement with the recommendations of said report,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under authority of WS 9-18.7 and WS 9-276.19 through 9-276.33 and its bylaws that for future water allocations the State of Wyoming through the State Engineers Office, Department of Environmental Quality, Wyoming Game and Fish Office, and in conjunction with future water users; file an Environmental Impact Statement to access the impact of total diversions on stream flows in the Green River. The EIS must include adequate objective appraisal of fishery and recreation

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values, and the subsequent social-economic impacts, assess the impact on spawning patterns and migration routes of spawning game fish from Flaming Gorge upstream in the Green River.

BE IT FURTHER RESOLVED THAT:

1. Instream flows to maintain the fishery, spawning, and migration patterns should be defined as a beneficial use of water in the Green River to Flaming Gorge reach.

2. Future diversions be made from the lowermost portions of the Green River, preferably from Flaming Gorge Reservoir, to help provide for adequate flows to maintain a fishable water.

3. Future water storage projects allocate storage space during planning and construction for downstream releases to maintain adequate flows for the protection and propagation of a game fishery.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A Gantzel
Attest

Resolution #25

Title: Management practice process for the Bureau of Land Management and the State of Wyoming.

Purpose: This resolution initiates action leading toward a management practice process for control of contaminant loadings from public lands.

Technical Basis: WHEREAS, the "Clean Water Report for Southwestern Wyoming," dated August 1978, has shown that a significant source of phosphorus and sediment to Flaming Gorge Reservoir is erosion from public lands, and

WHEREAS, the Bureau of Land Management is the manager of most of those public lands, and

WHEREAS, the Environmental Protection Agency may make funds available through Section 304 (K) of Public Law 95-12 for the control of erosion on those public lands, and

WHEREAS, the Wyoming Department of Environmental Quality has responsibility under WS 39-502.1 through WS 39-502.56 for water quality management in Wyoming, and

WHEREAS, the Lincoln-Uinta Association of Governments and Sweetwater County recognize the need for the Bureau of Land Management, the Environmental Protection Agency, and the Department of Environmental Quality to work cooperatively through a mutually agreeable management practice process for the improvement of water quality in the Southwestern Wyoming area.

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Lincoln, Uinta and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that it recommends the Lincoln-Uinta Association of Governments and Sweetwater County Priorities Board do the following:

1. Organize a meeting in Cheyenne, Wyoming within 60 days of the passage of this resolution for the purpose of developing a management practice process between the Bureau of Land Management and the Wyoming Department of Environmental Quality.

2. Request the attendance of the State Director of the Bureau of Land Management, the Director of the Wyoming Department of Environmental Quality, a representative of the Governor's office such as the State Planning Coordinator, and a representative of the Environmental Protection Agency.

3. Send a representative of the Lincoln- Uinta Association of Governments and Sweetwater County to the meeting.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gantzel
Attest

Resolution #26

Title: Improvement of irrigation efficiencies in the Bridger Valley and Eden Valley.

Purpose: This resolution recommends that the Bridger Valley Conservation District (#35) and the Big Sandy Conservation District (#46) carry out demonstration projects on water conservation through improved irrigation efficiencies.

Technical Basis: WHEREAS, the "Clean Water Report for Southwestern Wyoming," dated August 1978, has shown that salinity has negative economic and health-related impacts on water users in Southwestern Wyoming and in downstream sections of the Colorado River system, and

WHEREAS, said Report has identified irrigation return flows in the Bridger Valley and Eden Valley as major salinity contributors to the Green River system, and

WHEREAS, said Report has presented cost-effective measures to reduce salinity by better timing of irrigations in the Bridger Valley and Eden Valley, and

WHEREAS, said Report has presented possibly cost-effective measures to reduce salinity by sprinkler irrigation in the Bridger Valley,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through 9-276.33 and its bylaws that the Bridger Valley Conservation District and the Big Sandy Conservation Districts consider demonstration projects under the authority provided in WSA 11-245(c) to conserve water by increasing on-farm irrigation efficiencies through one or more of the salinity control measures mentioned above, and

BE IT FURTHER RESOLVED by said Association under the authority cited above that the United States Department of the Interior and the United States Department of Agriculture consider these projects under the Colorado River Salinity Control Program, and

BE IT FURTHER RESOLVED by said Association under the authority cited above that said conservation districts submit annual written reports on the progress of such projects and to give oral presentation to the Lincoln-Uinta Association of Governments (LUAOG) and the Sweetwater County government, if so directed.

Nothing in this resolution requires said conservation districts to fund solely such demonstration projects. The initiation of such demonstration projects is contingent on whether said conservation districts can obtain outside funding from one of the sources listed in Exhibit 26-A, the Model Implementation Program of the United States Department of Agriculture, or from any other outside source.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

Where the Southwestern Wyoming Water Quality Planning Association is mentioned in this resolution it shall also mean its successors or assigns.

Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gantzel
Attest

Exhibit 26-A

Because this option is designed as a voluntary action, there is almost no chance that it will be instituted unless some of the benefits to downstream users are passed back to the farmers who bear the costs of salinity control. This transfer of benefits could be accomplished through one of three Federal programs. First, the Agricultural Conservation Program provides 50 to 75 percent of the cost of conservation practices that meet special conservation needs. The U.S. Department of Agriculture is authorized to provide funds through this program under the Soil Conservation and Domestic Allotment Act of 1936 (PL 74-46). A second means of returning benefits of salinity control to the farmers is through the Lower Basin Salinity Control Fund, administered by the Bureau of Reclamation. These funds are raised by increased power rates on Lower Basin users. The final funding source would be a 208 continuing grant.

Reference: CH2M HILL. September 1977. *Technical Report, Clean Water Report for Southwestern Wyoming*, p. 8-13.

Resolution #27

Title: Control of new phosphorus sources in sensitive areas.

Purpose: This resolution sets forth concerns of the Southwestern Wyoming Water Quality Planning Association about the potential for increased phosphorus loading to surface waters through activities in specific areas, and directs various agencies to consider such impacts in their programs and to develop mitigating measures.

Technical Basis:

WHEREAS, existing and future phosphorus levels are described in "Clean Water Report for Southwestern Wyoming", dated August 1978, to cause undesirable growth of algae and other noxious plants (eutrophication) in Flaming Gorge Reservoir, and

WHEREAS, continued blooms of algae are likely to cause all or parts of Flaming Gorge Reservoir to become and/or remain unfit or undesirable for primary contact recreation (swimming, water-skiing) or for the propagation of game and other fish species, and

WHEREAS, said Report describes that reducing phosphorus levels will reduce the amount of algae produced, and

WHEREAS, said Report describes that the majority of phosphorus enters the tributaries to Flaming Gorge Reservoir by erosion, and

WHEREAS, Exhibit 27-A shows areas of specific concern because of soil chemical composition and erosion potential,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through WS 9-276.33 and its bylaws that the Wyoming Department of Environmental Quality under the authority of WS 35-502.1 through WS 35-502.56 use the information in Exhibit 27-A to establish priorities for areas to be addressed under the Statewide Agricultural Nonpoint Source Program where such areas are privately or state owned lands, and

BE IT FURTHER RESOLVED by said Association under the authority cited above that the Bureau of Land Management use the information in Exhibit 27-A to establish priorities for areas to be addressed in their Soil, Water and Air Management Activity (Code 4340), their Range Management Activity (Code 4320), and their Wildlife Habitat Management Activity (Code 4350), where such areas are under public ownership and managed by said Bureau.

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Should any part of this resolution be found or made invalid it shall not affect the validity of any other part of this resolution.

This resolution and its provisions shall remain in effect until modified or rescinded by the Southwestern Wyoming Water Quality Planning Association.

Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Gutzgold
Attest

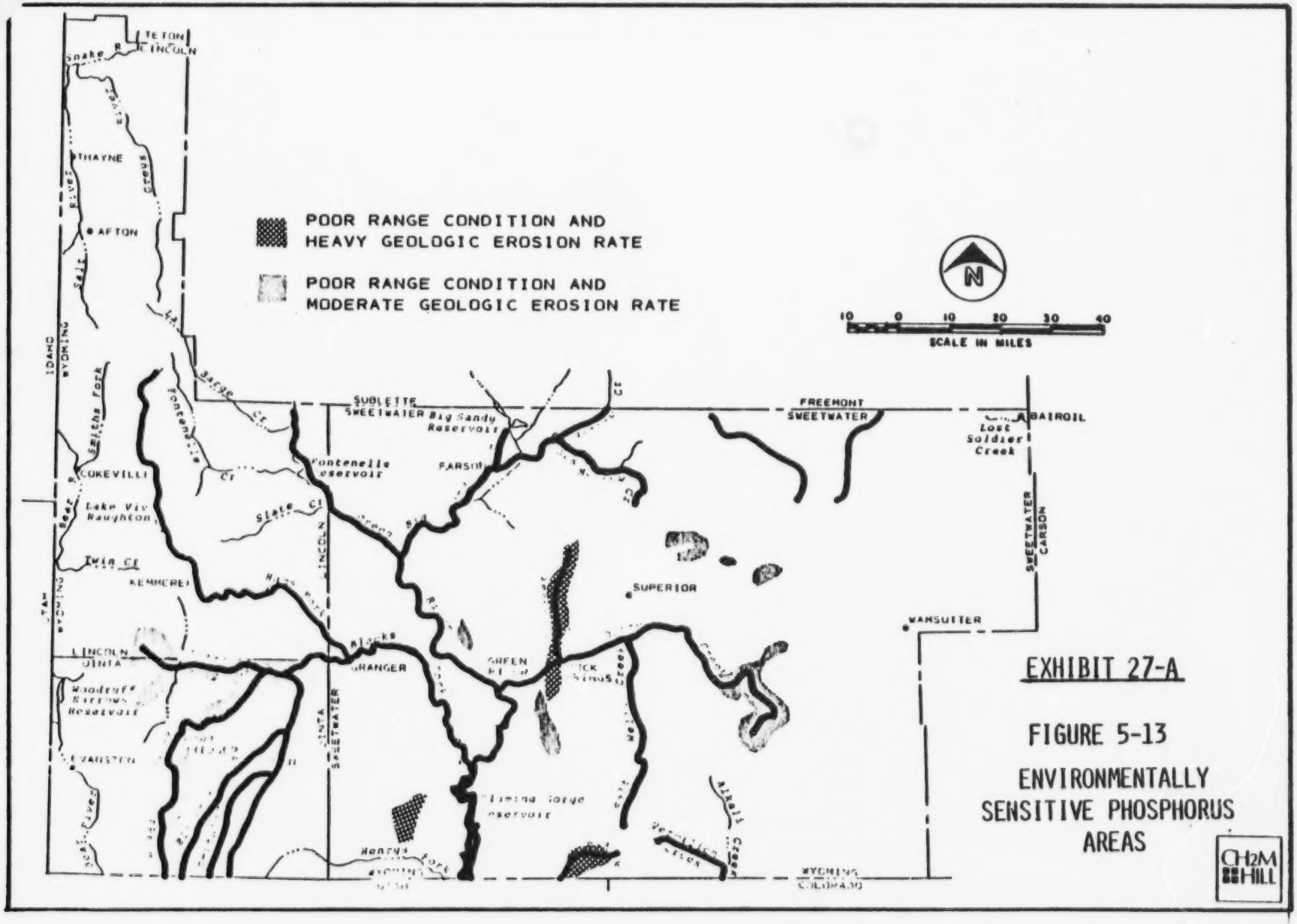

EXHIBIT 27-A

FIGURE 5-13

ENVIRONMENTALLY SENSITIVE PHOSPHORUS AREAS

CH2M HILL

-4-82-

Resolution #28

Title: Chloride, sulfate, and total dissolved solids standards to protect public water supplies and wildlife and livestock waterings.

Purpose: This resolution directs the Wyoming Department of Environmental Quality to adopt a set of chloride, sulfate, and total dissolved solids standards to protect the following uses in the study area: wildlife and livestock watering and public water supplies.

Technical Basis: WHEREAS, the "Clean Water Report for Southwestern Wyoming," dated August 1978, has indicated high sulfate concentrations in the drinking water supplies for the Rock Springs-Green River area, and

WHEREAS, said Report has shown that livestock and wildlife may suffer health effects from high chlorides, sulfates, and total dissolved solids in certain streams and stream segments,

Action: BE IT THEREFORE RESOLVED by the Southwestern Wyoming Water Quality Planning Association as the areawide water quality planning agency for Uinta, Lincoln, and Sweetwater Counties in Wyoming under Section 208 of PL 92-500 and under the authority of WS 9-18.7 and WS 9-276.19 through 9-276.33 and its bylaws that the Department of Environmental Quality under the authority of WS 35-487.19, WS 35-502.19 and Section 303 of PL 92-500 adopt the following instream salinity standards:

1. A sulfate standard (250 mg/l) and a chloride standard (250 mg/l) as contained in the above reference for the protection of public drinking water supplies.

2. A sulfate standard (3,000 mg/l), chloride standard (2,000 mg/l), and total dissolved solids standard (5,000 mg/l) as contained in the "Wyoming Water Quality Standards for Produced Water," for the protection of livestock and wildlife watering.

Nothing in this resolution shall require the Southwestern Wyoming Water Quality Planning Association to fund, administer or staff the activities called for by this resolution except as it shall do so by separate resolution.

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Adopted this 27 day of July, 1978.

Southwestern Wyoming Water
Quality Planning Association

By Eugene B Martin
Chairman

Richard A. Jentzsch
Attest